REPORT RESUMES

ED 003 478 24
READING ACHIEVEMENTS IN RELATION TO GROWTH IN PERCEPTION OF WORD ELEMENTS IN THREE TYPES OF BEGINNING READING INSTRUCTION.
BY- MURPHY, HELEN A.
BOSTON UNIV., MASS.
REPORT NUMBER CRP-2675 PUB DATE 65
EDRS PRICE MF-$0.18 HC-$4.56 114P.

DESCRIPTORS- *READING ACHIEVEMENT, *PERCEPTUAL DEVELOPMENT, STRUCTURAL ANALYSIS, READING SKILLS, *BEGINNING READING, BASIC READING, VOCABULARY DEVELOPMENT, GRADE 1, ACHIEVEMENT GAINS, READING INSTRUCTION, *PHONICS, SPEECH HABITS, WRITING SKILLS, SPELLING, VISUAL PERCEPTION, *WORD RECOGNITION, BOSTON MASSACHUSETTS, SCOTT FORESMAN NEW BASIC READERS SERIES

THE PROBLEMS EXAMINED IN THIS STUDY WERE (1) THE RELATIONSHIP OF PERCEPTION OF WORD ELEMENTS TO SIGHT VOCABULARY GROWTH, (2) THE EFFECT OF EARLY TEACHING OF A SPEECH-BASED PHONICS PROGRAM ON READING ACHIEVEMENT, AND (3) THE VALUE OF WRITING EMPHASIS IN THE SPEECH-BASED PHONICS PROGRAM. THREE READING PROGRAMS WERE INCLUDED IN THE STUDY, EACH USED IN 10 FIRST-GRADE CLASSROOMS. ONE GROUP FOLLOWED THE "GRADUAL PHONICS APPROACH" FOUND IN THE SCOTT-FORESMAN READERS AND WORKBOOKS. A SECOND GROUP FOLLOWED THE SYSTEMATIC "SPEECH-TO-PRINT PHONICS" PROGRAM (DURRELL AND MURPHY, 1964) WITH VISUAL WORD STUDY. THE THIRD GROUP ALSO USED THE "SPEECH-TO-PRINT PHONICS" WITH AN EMPHASIS ON WRITING RESPONSES. TEST BATTERIES WERE USED TO GATHER DATA ON THE THREE GROUPS THROUGHOUT 1 SCHOOL YEAR. THE FOLLOWING CONCLUSIONS WERE MADE ON THE BASIS OF TEST DATA ANALYSIS--(1) GROWTH IN SIGHT VOCABULARY IN BEGINNING READING IS RELATED TO PERCEPTION OF WORD ELEMENTS, (2) EARLY TEACHING OF SPEECH-BASED PHONICS RESULTS IN HIGHER ACHIEVEMENT IN READING AND SPELLING, (3) EMPHASIS IN WRITING PRACTICE RESULTS IN MORE WRITING AND BETTER SPELLING IN CHILDREN'S COMPOSITIONS. (JH)

U. S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
Office of Education
This document has been reproduced exactly as received from the person or organization originating it. Points of view or opinions stated do not necessarily represent official Office of Education position or policy.

READING ACHIEVEMENTS IN RELATION TO GROWTH IN PERCEPTION OF WORD ELEMENTS IN THREE TYPES OF BEGINNING READING INSTRUCTION.

Helen A. Murphy
Boston University
Boston, Massachusetts
1965

The research reported herein was supported by the Cooperative Research Program of the Office of Education, U.S. Department of Health, Education, and Welfare.

ED 003478

Table of Contents

Page

List of Tables... iii

Problem.. 1

Related Research... 2

Procedure.. 11

Analysis of Date and Findings............................ 32

Conclusions and Implications............................. 70

Bibliography... 72

Appendices 75

  Tests.. 76

  Sample Work Sheets 102

LIST OF TABLES

TABLE PAGE

1. Mean Scores on September Tests.................................. 33
2. Mean Scores of September Tests Through an Analysis of Variance.. 34
3. Distributions of Number of Days Absence for the Three Groups.. 35
4. Mean Scores on Tests of Identification of Capital Letters Named.. 36
5. Trend Analysis of Identification of Capital Letters.......... 37
6. Mean Scores on Identification of Lower-case Letters Named.. 38
7. Trend Analysis for Identification of Lower-case Letters Named.. 39
8. Mean Scores on Tests of Sounds in Isolation.................. 40
9. Trend Analysis of Identification of Sounds in Isolation.. 41
10. Mean scores on Tests of Sounds in Words..................... 42
11. Trend Analysis of Sounds in Words............................ 43
12. January Achievement Scores.................................... 45
13. Stanford Achievement Tests--April............................. 47
14. Grade Equivalents on Standford Achievement Tests.............. 48
15. Mean Scores on Homophone Test--May............................. 49
16. Mean Scores on Homonym Spelling Test--May...................... 49
17. Mean Scores September Tests--Boys and Girls--Group A.......... 50
18. Mean Scores on September Tests--Boys and Girls--Group B....... 51
19. Mean Scores on September Tests--Boys and Girls--Group C....... 52
20. Mean Scores of Boys and Girls on Detroit Test, January........ 53
21. Comparison of Scores of Boys and Girls on Scott-Foresman Vocabulary.. 54

TABLE PAGE

22. Comparison of Mean Scores of Boys and Girls on Board Words--January.. 54

23. Comparison of Mean Scores of Boys and Girls on Card Words--January.. 55

24. Comparison of Mean Scores of Boys and Girls on Total Reading--January.. 55

25. Comparison of Mean Scores of Boys and Girls on Stanford Word Meaning--April.. 56

26. Comparison of Mean Scores of Boys and Girls on Paragraph Meaning--April.. 56

27. Comparison of Mean Scores of Boys and Girls on Vocabulary--April.. 57

28. Comparison of Mean Scores of Boys and Girls on Stanford Spelling--April.. 58

29. Comparison of Mean Scores of Boys and Girls on Stanford Word Study Skills--April.. 58

30. Comparison of Mean Scores of Boys and Girls on Homophone Test--May.. 59

31. Comparison of Mean Scores of Boys and Girls on Homonym Spelling Test--May.. 59

32. Relation of Word Perception Abilities and Reading Achievement--January.. 60

33. Relation of Word Perception Scores and Stanford Achievement--April.. 61

34. November Scores on Word Perception Elements and January Achievement, Mental Age Controlled.. 62

35. November and April Scores Mental Age Controlled.. 63

36. Comparison of Mean Number of Running Words, Writing Sample I.. 64

37. Comparison of Mean Number of Running Words, Writing Sample II.. 65

38. Comparison of Mean Number of Words Spelled Correctly, Writing Sample I.. 65

TABLE PAGE

39. Comparison of Mean Number of Words Spelled Correctly, Writing Sample II.. 66

40. Comparison of Means on Mechanics Ratio, Writing Sample I.. 66

41. Comparison of Mears on Mechanics Ratio, Writing Sample II.. 67

42. Comparisons of Mean Number of Running Words, Writing Samples I and II.. 67

43. Comparisons of Mean Number of Words Spelled Correctly, Writing Samples I and II.. 68

44. Comparison of Mean Machanics Ratio on Writing Samples I and II.. 68

INTRODUCTION

The timing and nature of phonics instruction is the most controversial area of beginning reading. Opinions on "words first or phonics first" range from that of Smith,[1] whose recent textbook recommends the establishment of a sight vocabulary first, to that of Fries,[2] who says, "The first set of recognition responses to be developed are those for the letters of our alphabet".

Russell's[3] review of research on teaching reading reports conflicting evidence and opinion on details of phonics instruction. These include the values of ear-training, vowels or consonants first, whole-word or isolation of phonics, use of context clues and maintenance of meaning, recognition techniques versus "sounding out", keeping phonics "pure" through new symbols for phonemes, and the value of phonics rules. Authorities in linguistics are also in disagreement about details of teaching phonics, the conclusions of Fries contrasting to the practices of Bloomfield and Burnhart.[4]

Three problems were included in this study:

1. The relation of perception of word elements to sight vocabulary growth,
2. The effect of early teaching of a speech-based phonics program on reading achievement, and
3. The value of a writing emphasis in the speech-based phonics program.

---

[1] Smith, Nila B., Reading Instruction for Today's Children, Prentice-Hall, Englewood Cliffs, N.J., 1963.

[2] Fries, Charles C., Linguistics and Reading, Holt, Rinehard and Winston, N.Y. 1963.

[3] Russell, David H., "Research on Teaching Reading," in Handbook of Research Teaching, Rand McNally & Co., Chicago, 1963.

[4] Bloomfield, Leonard and Burnhart, Clarence L., Let's Read, A Linguistic Approach, Wayne State University Press, Detroit: 1961.

RELATED RESEARCH

More than one hundred fifty studies of beginning reading, especially in phonics, phoneme identification, letter knowledge, sight vocabulary, speaking vocabulary and measures of perception of word elements, have been conducted at Boston University.[1] Some of the pertinent findings which provided background for this sponsored research follow.

Letter Knowledge as Reading Readiness

Familiarity with the letter forms seems essential to the accurate perception needed to discriminate between words. Since most letter names contain the sounds of the letter, the ability to name letters should aid in establishing relationships between the phonemes of the spoken word and the printed form of the word. The child who knows the letter names has an excellent first step in phonics.

The most detailed study of the relation of September knowledge of letters to June first grade reading achievements is that of Gavel[2] whose study included 1,506 children. All of her tests of letter names correlated higher with reading achievement than did mental age: writing letters dictated .60; naming capital letters, .58; identifying capitals named, .56; identifying lower-case letters, .54; mental age, .44. Letter knowledge tests requiring only matching, showed lower correlations for two reasons. There was no relation to name or sound, and the abilities tested were too easy, resulting in a skewed distribution of scores. These correlations with reading were: identifying lower-case letters shown, .35; identifying capitals shown, .32; matching capital letters, .22; matching lower-case letters, .22.

---

[1] Durrell, Donald D. and Murphy, Helen A. "Boston University Research in Elementary School Reading: 1933-1963." Journal of Education 146: 1-153, December 1963.

[2] Gavel, Sylvia Ruth, "June Reading Achievements of First Grade Children," Journal of Education, Vol. 140: Pp. 37-48, February 1958.

Olson[1] provided evidence of the importance of letter knowledge in acquiring a sight vocabulary. Of his 1172 children tested in February, only nine were able to learn 70 or more words without knowing the names of 20 or more letters. He concluded, "While a knowledge of letter names does not always assure high reading achievement, the lack of that knowledge assures low reading achievement. Apparently a child must have a knowledge of letter names long before he masters seventy-five words."

The differing backgrounds in letter knowledge of children entering first grade were shown by Nicholson[2] in her study of 2,174 children. In her population, the mean number of letters known at various levels of perception were as follows: identifying capitals named, 16.6; naming capitals, 12.2; identifying lower-case named, 12.04; naming lower-case letters, 9.0; writing letters named, 9.98. Matching letters and identifying letters shown were much too easy for most entering first graders, with mean scores close to perfect: matching capital letters, 25.3; matching lower-case letters, 24.5; identifying lower-case shown, 22.2. 96 percent of the pupils matched 22 or more capital letters and 20 or more lower-case letters correctly. 90 percent were able to identify 20 or more capitals shown and 18 or more lower-case letters shown.

Auditory Discrimination as Reading Readiness

The ability to isolate and identify phonemes in spoken words and the relation of this ability to reading was the focus of many studies. If a child is to learn the system of matching sound patterns in words with the printed words, it is essential that he be aware of the phonemes in the sound patterns. On tests using pictures of objects with the names given orally, the child is asked to circle pictures whose names begin with certain sounds. Tests of this type of auditory discrimination show fair correlation with reading achievement. Fagg[1] reported .51: Tufts[2], .47; Allen and others[3], .60; Gavel[4], .35; Maskell and others[5], .65; McFarland[6], .66. These variations in correlation appear to result from differences in the sensitivity of the measures employed. However, all but one of them are higher than other factors commonly found in reading readiness tests.

---

[1] Olson, Arthur V., "Growth in Word Perception Abilities as it Relates to Success in Beginning Reading", Journal of Education, Vol. 140: Pp.25-36, February 1958.

[2] Nicholson, Alice, "Background Abilities Related to Reading Success in First Grade," Journal of Education, Vol. 140: Pp. 7-21, February 1958.

Biggy[7], Kelley[8], Maskell and others[9], and Cavoures[10] analyzed the relative difficulty of various elements in auditory discrimination of words. Beginning consonant sounds are the easiest to identify; ending consonant sounds are somewhat harder. Consonant sounds are easier than vowel sounds although some initial vowel sounds are not too difficult to perceive. Medial sounds are usually harder than beginning or final sounds. Recognition of vowel sounds in a phonogram appears to be easier than the recognition of the same sound in isolation. The recognition of rhymes predicts reading achievement less well than the recognition of individual sounds.

---

[1] Fagg, Dorothy W., "A Study of the Relationship Between Auditory Analysis and Growth of Language Arts Skills," Unpublished Master's Thesis, Boston University School of Education, Boston, 1942.

[2] Tufts, Betty Raymond, "An Evaluation of Several Types of Auditory Discrimination Tests for Kindergarten and First Grade," Unpublished Master's Thesis, Boston University School of Education, Boston, 1941.

[3] Allen, Ruth J.,"The Relationship of Readiness Factors to January First Grade Reading Achievement," Unpublished Master's Thesis, Boston University School of Education, Boston, 1959.

[4] Gavel--op cit. page

[5] Maskell, Eleanor I.,*et al.*, "The Construction and Evaluation of a Group Auditory Test of Word Analysis for Grade One," Unpublished Master's Thesis, Boston University School of Education, Boston, 1950.

[6] McFarland, Mary E., "The Relationship of Readiness Factors to Success in Beginning Reading," Unpublished Master's Thesis, Boston University, 1953.

[7] Biggy, M. Virginia, "The Establishment of a Relative Order of Difficulty of Word Elements in Auditory Discrimination," Unpublished Master's Thesis, Boston University School of Ecucation, Boston, 1946.

[8] Kelley, Helen I., "Relative Difficulty of Auditory Perception of Word Elements," Unpublished Master's Thesis, Boston University, Boston 1948.

[9] Maskell, --op cit.

[10] Cavoures, Dorothy G.,"Phoneme Identification in Primary Reading and Spelling," Unpublished Doctoral Dissertation, Boston University, Boston, 1952.

Growth in Auditory and Visual Discrimination

Auditory discrimination, the ability to recognize likenesses and differences in sounds of letters and words, and visual discrimination, the ability to recognize likenesses and differences in the visual forms of letters and words, are contributing factors in the acquisition of a sight vocabulary. Attempts have been made to improve both of these skills, using oral presentations by the teacher, recordings, combining oral presentation with materials on filmstrips, and direct teaching of the names and sounds of letters.

Murphy[1] developed thirty lessons to improve the child's ability to hear sounds in spoken words and Junkins[2] developed a similar number of lessons to improve his ability to recognize the visual form of words and word elements. Each series was taught to a group of 50 children who had had difficulty in learning to read. Some had repeated grade one and were still not reading in grade two; others had been in grade one for 3 months and had not started to read. A third group of 50 children in the same system was a control for both studies. The mean score on the learning rate test at the close of the study for children having had the visual training was 4.41 words, compared with 2.76 words for the control; for those having had the auditory training, 5.20 words compared with 2.76. The mean scores at the beginning were alike for all groups. Gains in reading achievement as measured by the Detroit Word Recognition Test were significant for the children in both experimental groups.

---

[1] Murphy Helen A.,"An Evaluation of Exercises for Developing Auditory Discrimination in Beginning Reading," Unpublished Master's Thesis, Boston University School of Education, Boston, 1940.

[2] Junkins, Kkthryn M., "The Construction and Evaluation of Exercises for Developing Visual Discrimination in Beginning Reading," Unpublished Master's Thesis, Boston University School of Education, Boston, 1940.

In a second study, Murphy[1] used both series of lessons with 540 children during the first 6 weeks of the first grade. The children were divided into four groups: group 1. had an auditory and a visual lesson each day, group 2. had a visual lesson, group 3. had an auditory lesson, and group 4.--the control group--followed the basal reader, having no special training. The groups were matched in September on learning rate, Lee Clark Readiness Test scores, intelligence as measured by the Detroit First Grade Intelligence Test and the Pintner Cunningham Primary Intelligence Test, and original tests of auditory and visual discrimination. Detroit Word Recognition Test Form A was given in November at the close of the exercises and Form B in June. An individual oral inventory of the words in the basal reader which was being taught was given in February. There were statistically significant differences between each of the experimental groups and the control group on all achievement tests. There were no statistically significant differences between the boys and girls of the experimental groups on any of the achievement measures, but there were such differences in the control group at every measuring period, always favoring the girls. Apparently the skill can be acquired by the boys as evidenced by the experimental groups where the boys learned as well as the girls.

Crossley[2] evaluated the effect of training in auditory and visual discrimination on reading, using lantern slides to provide the practice.

---

[1] Murphy, Helen A., "An Evaluation of the Effect of Specific Training in Auditory and Visual Discrimination on Beginning Reading," Unpublished Doctoral Dissertation, Boston University, Boston, 1943.

[2] Crossley, B. Alice, "An Evaluation of the Effect of Lantern Slides on Auditory and Visual Discrimination of Word Elements," Unpublished Doctoral Dissertation, Boston University, Boston, 1952.

Gains in learning rate were significant. Differences on the Gates tests were not significant, but all favored the experimental group. There were no significant differences between the boys and girls on any test.

Gogolewski[1] developed forty lessons to increase auditory and visual perception using visual and kinesthetic speech clues. 280 children in the experimental group used the lessons and 291 in the control group used BUILDING WORD POWER. Tests in January and March showed no significant differences between the groups in auditory and visual discrimination or learning rate. When pupils were paired for mental age, those having higher auditory scores made higher achievement in word reading, sentence reading and paragraph reading. Girls in both groups were superior to the boys on the Gates test.

Bresnahan[2] used recordings to teach auditory discrimination of word elements in the kindergarten. The program began in February. Two groups of 180 children each were used--the experimental group using the recordings and the control the readiness program planned by each teacher with an average of 20 minutes a day spent in such activities. There were gains made by all children and no differences were significant between groups on any measure.

Hudak and Wentzel[3] taught the letters of the alphabet to 144 children in the first grade before any formal instruction in reading was begun. Their reading achievement on the Detroit Word Recognition Test was compared with 144 children who had not been taught the names of the letters before starting the reading program. There was a statistically significant difference favoring the children who had been taught the letter names.

---

[1] Gogolewski, Jean I., "Auditory Perception of Word Elements in Beginning Reading Through Visual and Kinesthetic Speech Clues," Unpublished Doctoral Dissertation, Boston University School of Education, 1955.

[2] Bresnahan, M. Marie, "An Evaluation of Recordings for Teaching Auditory Discrimination of Word Elements for Beginning Reading," Unpublished Doctoral Dissertation, Boston University School of Education, 1952.

[3] Hudak, Elizabeth and Wentzel, Margaret, "The Effect of Knowledge of Letter Names on Beginning Reading," Unpublished Master's Thesis, Boston University School of Education, Boston, 1955.

Linehan[1] evaluated early instruction in letter names and sounds as it effects success in beginning reading. 24 classrooms, 12 experimental and 12 control, were involved. In the control group, the classes followed the manual of the Scott-Foresman basal reader, while in the experimental group, the start was delayed until the letters had been taught. Tests were administered in September, November, February and June. Individual tests of oral reading and applied phonics were given in June. The oral reading test allowed a comparison of the relative sizes of sight vocabularies. February tests showed statistically significant differences favoring the experimental group in all tests--oral reading, silent reading, applied phonics, hearing sounds in words and all tests of letter knowledge. June scores showed significant differences favoring the experimental group in oral reading, paragraph meaning and all measures of phonic ability. Smaller differences were found in word classification, silent reading and the Detroit test, but these, too, all favored the experimental group.

Santeusanio[2] developed 30 lessons planned to teach the homophones most frequently found in the vocabulary of first grade books. These lessons were taught to the children in eight first grade classrooms and the children in a similar community were used as a control group. On the completion of the lessons, the Metropolitan Achievement Test Form A, and the Gates Word Pronunciation Test were administered. A second form of both of these measures was administered two months later. The mean score on the achievement test for the experimental group was 28.45, compared with 25.45 for the control group. On the delayed Metropolitan test, the experimental group had a mean score of 38.65, compared with 31.0 for the control. Both of these differences were significant, favoring the group which had used the experimental materials. The mean score on the Gates test at the close of the lessons was 27.50 words for the experimental group, compared with 20.30 words for the control. On the delayed Gates it was 22.15 for the experimental group, compared with 16.24 for the control. These differences were both significant. Girls were superior to boys in both groups on all of the tests.

---

[1] Linehan, Eleanor B., "Early Instruction in Letter Names and Sounds as Related to Success in Beginning Reading," Unpublished Doctoral Dissertation, Boston University School of Education, Boston, 1957.

[2] Santeusanio, Nancy C., "Evaluation of a Planned Program for Teaching Homophones in Beginning Reading," Unpublished Doctoral Dissertation , Boston University School of Education, Boston, 1962.

Arkin and others[1] in 1963 studied the growth patterns of 500 children in one community, who were using the research edition of Speech-to-Print Phonics. They tested four times--in September, October, December and January. The September tests were given before the materials were distributed to the classroom teachers and before any formal instruction had started. They included auditory discrimination and knowledge of capital and lower-case letters.

The October tests, group and individual, were administered after 15 lessons in the Speech-to-Print Phonics Program had been completed. Group tests included auditory discrimination, identification of capital and lower-case letters, sounds in isolation, sounds in words and phonograms.

---

[1] Arkin, Susan B., et al., "Growth Patterns in First Grade Reading," Unpublished Master's Thesis, Boston University School of Education, Boston, 1964

The individual tests included naming capital and lower-case letters, giving sounds of letters, applied phonics and reading three stories.

The December tests, administered after 35 lessons had been completed, included identification of capital and lower-case letters, sounds in isolation, sounds in words, phonograms, and the Detroit Word Recognition Test.

The January tests were given at the completion of all 55 lessons. The group tests were the same as the December tests with the exception of the phonograms, which included twice as many items. A second form of the Detroit Word Recognition test was given. The individual tests included: naming capital and lower-case letters, giving sounds for letters, applied phonics, and reading nine stories.

On the basis of the test results, it was concluded that most measures of word element perception were closely related to January achievements in reading as measured by sight vocabulary , and that the time of acquisition of names of lower-case letters in related to reading achievement.

PROCEDURE

Three different reading programs were included in this study--each program being used in ten first-grade classrooms. One group followed the "gradual phonics approach" found in the Scott-Foresman readers and workbooks. A second group followed the systematic Speech-to-Print phonics program with visual word study. The third group also used the Speech-to-Print phonics with an emphasis on writing responses.

The following outline shows the three programs as they were used in the daily sixty-minute period of reading instruction:

A. Gradual Phonics Approach:

Teacher-led: Scott-Foresman Stories, 3 sections, each 20 min.
Seatwork: Scott-Foresman Workbooks 40 min.

B. Speech-to-Print Phonics, Visual Word Study

Teacher-led: Scott-Foresman Stories, 3 sections, each 15 min.
Teacher-led: Speech-to-Print Phonics, whole class 15 min.
Seatwork: Word-study worksheets, visual response 30 min.

C. Speech-to-Print Phonics, Writing Word Study

Teacher-led: Scott-Foresman Stories, 3 sections, each 15 min.
Teacher-led: Speech-to-Print Phonics, whole class 15 min.
Seatwork: Word-study worksheets, writing responses 30 min.

Instructional Materials

Treatment A, Gradual Phonics Group

The children in this group followed the Scott-Foresman manuals, readers and workbooks for first grade. These materials emphasize the development of sight vocabulary, introducing phonics instruction through the workbooks gradually throughout the year. While the program as it is outlined was followed carefully, the teachers working with these children were given help in adjusting to differences in level, in increasing the intensity of practice through every-pupil response techniques in their vocabulary practice as well as paired practice in oral reading, and mutual aid in learning was provided by having the workbooks done in pairs rather than alone. The Research Assistants worked in these classrooms with the teachers and children the same amount of time that they worked in the classrooms in the other treatment groups. A Research Assistant was assigned to the ten classrooms in two communities, and the Director worked with the teacher and children in the third community.

Treatment B, Speech-to-Print Phonics Group. Visual Word Study.

This group was taught the Scott-Foresman Stories and the accompanying sight vocabulary. A ten-day program to teach letter names was developed and used with both B and C treatment groups. The sixty-minute instructional periods for those ten days were spent on the program. The first day the alphabet was printed on the board in two columns--A through M, in column one and N through Z, in column two. Each child's name was written beside the letter with which his first name began. The teacher read the names, pointing to them, and each child stood as his name was read. As the list was completed, all the children were standing. They had a second practice as they sat down when their names were read again. The children sang the alphabet song also. The names were left on the board for a few days so that the teacher might refer to them. Each child's name was written in manuscript and attached to his desk.

The first day the children were given the pupil-response cards of Speech-to-Print and they arranged the letters in alphabetical order, children who knew the letters helping those who did not. The third period was the teacher-directed Lesson One on teaching the letter-names, and in the fourth period the children worked in pairs, doing a worksheet which provided written practice on LOOK. The Letter Name Lessons, based on words ordinarily found in capital letters in the vicinity of the school, introduced the letters in the following order:

1.	LOOK	L, l,	O,o,	K, k
2.	SLOW	S, s,	W,w,	
3.	STOP	T, t,	P,p,	
4.	EXIT	E, e,	X,x,	
5.	FIRE EXIT	F, f,	R,r,	
6.	BOYS, GIRLS	B, b,	Y,y,	G, g
7.	DANGER	D, d,	A,a,	N, n
8.	SCHOOL ZONE	C, c,	H,h,	Z, z
9.	QUIET	Q, q,	U,u,	
10.	JOBS, MILK, VISITORS	J, j,	M,m,	V, v

Beginning the second day the sixty-minutes were divided into four 15-minute periods. The first period was a teacher-directed lesson in ear training beginning with Lesson One from the Speech-to-Print lessons. Lessons 1. through 5. were included in the 10-day program. Three additional lessons were written--a second practice for S, a review of S and B, a second practice for Hard C and a review of C and T. The same words were used on the board as in the original lessons. The word clusters were different and the final sentences differed also. In the second period, the teacher worked with the slow children on letter matching and the other children worked in teams of four on a letter-circling game. Each child had four words which were pictured and one child held up a letter and named it and the children circled that letter occuring in their words.

The third period was the teacher-directed lesson on letter names from Speech-to-Print and in the fourth period the children did a written worksheet, practicing the letters that had been introduced. Words were pictured so that all practice of letters w as in meaningful context. In the first five lessons the children added only one letter to complete a word. Beginning in Lesson 6. and continuing through Lesson 10., whole words were copied. The words in each lesson were grouped according to

meaning. For example, in Lesson 8, were included "the things we have in school" and the pictures included crayons, scissors, cabinet, desk, chalk and puzzle.

This 10-day program replaced the readiness program of the Scott-Foresman series. The children who had mastered the letters moved directly into the pre-primers and into a daily lesson in Speech-to-Print Phonics. Children who still did not know the letters continued to work on them.

This phonics program consists of 55 lessons--beginning with phonemes in order of their frequency as initial sounds in primary words, moving to initial blends, then to final sounds and on to vowel sounds. Each lesson introduces a single phonic element, first by noticing its presence as a phoneme in spoken words, then relating it to these words in print--isolating the phonic element in both spoken and printed words. Practice is then given in identifying the phoneme in other spoken words with children indicating recognition by holding up the letter card for the phoneme. At the end of each lesson, the newly-learned element is used in the recognition of new words. Three words are shown on a card, all having the same phonogram, but differing initial letters. The words to be identified are indicated by oral context clues and the children hold up card to show recognition of the correct word. A sample of these lessons follows:

LESSON 1

S as a Beginning Sound

Materials:

A. These words printed on the board:

see say sit sing send sew

B. Each child needs an S card.

----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- -----

Directions:

1. See all of these words on board. They are all things you can do. Listen while I say them (pointing to each one):

see say sit sing send sew

Now you say them after me (pointing to each word): see, say, sit, sing, send sew. Did you notice that they all begin with the same sound, s? Say them again after me and notice the s sound at the beginning (pointing and emphasizing the s sound): see, say, sit, sing, send, sew. They all begin with s. Say s. Notice that your lips are open and your teeth close together, s. Say the words after me again (pointing): see, say, sit, sing, send, sew. What is the first letter in all of them? Yes, S. S is the way we usually write the s sound. Show me your letter S. Good!

2. Now I'll say some words about things you might find in the kitchen. Some of them will begin with s, and some won't. Say each word after me and hold up your S card when you hear s at the beginning:

soap salt pepper sink saucer bowl salad silver

(Comment after each response, giving encouragement such as the following: Right! Soap begins with s. Yes, salt begins with s. No, pepper doesn't start with s, etc.)

3. Now I'll say some words about things to eat. Say each word after me and hold up your S card if you hear s at the beginning:

supper sandwich melon soup banana sauce salad

(Comment after each response as before.)

4. Here are some words about things you might see on an automobile ride. Say them after me and hold up your S card if they begin with s:

sign sand man sidewalk sunshine burn signal

(Comment after each response.)

5. Here are some words about people. Say them after me and hold up your S card when the word begins with s:

sailor sister baker Sally singer father Sue

(Comment after each response.)

6. Now let's look at the words on the board which tell about things you can do. Say them after me again (pointing): see, say, sit, sing, send, sew. I'll ask you questions which you can answer with these words. All of the answers will start with s.

a. What do you do with your eyes? See. Good! Here is see. (point)
b. What do you do with needle and thread? Sew. Right! Here is sew.
c. Which means to talk? Say. Here is say.
d. What do you do in a chair? Yes, you sit. Here is sit.
e. What do you do to a song? Yes, you sing. Here is sing.
f. What do you do with a letter you have written? Send it. Here is send.

7. Now show me the letter for the s sound. What is its name? S.

To the Teacher:

More primary grade words start with S than with any other letter. The purpose of this lesson is to notice the s sound in spoken words and to relate it to the S in print. This is the Speech-to-Print approach. Avoid saying, "S says s", since it also says z in many children's words: is, as, his, has, was, does. It also says z in the plurals of most words ending in b, d, g, l, m, n, and r. It also says sh in sure and sugar. One is safe, however, in saying that "s is usually spelled S". The C spelling appears in only a few first grade words (cent, center, cereal, circus, city). The S-blends (sc, sk, sl, sm, sn, sp, sw) are taught separately later. Children are not expected to remember the words on the board, although rapid learners will.

SAMPLES OF APPLIED PHONICS CARDS

(Lesson 5, Card B) Front sold cold told
1 2 3

Back
Directions: All of these words end in "old" like hold and gold.
1. This is the way a piece of ice feels. What is the word? Show me the number.
2. This is what the farmer did with his apples. What is the word? The number?
3. What did the boy do with the joke? What is the word? The number?
4. This makes you shiver. What is the word? The number?
5. This tells what the man did with the balloons. What is the word? The number? (and other similar stimulus statements or questions)

(Lesson 28, Card E) Front dig dish did
1 2 3

Back
Directions: All of these words begin with "di" like Dick and dip.
1. You do this to make a hole in the ground. What is the word? Number?
2. Some people did not go, but others ___. What is the word? Number?
3. I didn't eat the cake; who ___? What is the word? The number?
4. You see this on the table at dinner. What is the word? The number?
5. When you plant a tree, you have to ___. What is the word? The number? (and other similar stimulus statements or questions)

There are 250 such cards, presenting a total of 750 primary grade words.

The program incorporates these values drawn from research and experience:

1. Word meaning is always kept high: all words appear in contexual situations with each word evoking imagery and ideas.

2. Variations in English spelling of the same sounds are met directly, but are controlled through the order and nature of presentation.

3. All words are of high frequency in the speech of children; words are also closely related to vocabularies in children's books.

4. The order of presentation is based upon frequency of the sound and upon studies of children's abilities in the perception of word elements.

5. Phonics principles are acquired inductively, aided by techniques of discovery and application.

6. No labored "sound-out" is required; each analysis task is simplified by structure and context clues.

Effective use of time is provided in the lessons by the following design:

1. Every-pupil response methods permit each pupil to respond to every task; there is no "waiting turns".

2. Several levels of learning are possible in each lesson; while the slow learner acquires phonic elements, the rapid learner acquires a sight vocabulary.

3. Different depths and amounts of practice are provided for children who differ in learning rates.

4. Card responses permit the teacher to analyze individual success; difficulties are readily observed, permitting provision of extra practice for mastery.

5. Motivation is high; the child always has an interesting task to which he responds quickly. He knows at once if his answers are correct. The lessons move without waste of time.

The word-study worksheets for self-directed seatwork were based upon the words and word elements taught in the readers and the Speech-to-Print Phonic lessons.

Treatment C. Speech-to-Print Phonics Writing Word Study

Instructional materials for this group were the same as for the second group with the exception that the self-directed seatwork consisted of practices involving writing. The vocabularies and intellectual tasks of the worksheets in both Treatment Groups B and C were essentially the same. Samples of various types of worksheets which follow show the approaches:

1. A picture with several objects labeled: children in Group C wrote things they saw. In Group B the children matched cards with the pictures. These were planned for two children to work together taking turns with the writing, and the answers were inside, so that the children checked their own work.

2. A picture would have three words beside it and the children in Group C wrote the correct word beside the word. Those in Group B circled the correct word.

3. A picture was followed by a word minus the beginning or final letter and the children in Group C wrote the missing letters. In Group B the children used letter cards to complete the words.

4. Rhyming words were introduced with two pictures, one with the name under it, and the children in Group C wrote the name under the second picture. For example, the pictures might be a car and a star. Car was written under the picture of the car and the children wrote star. In Group B, cards were placed under the pictures.

5. A group of pictures, the names of which all began with the same consonant, was presented with all but the first letter of the word written under each picture. The Group C children wrote the letter to make a word. In Group B the children drew lines under words beginning with the letter.

6. A series of lessons were based on Mother Goose Rhymes. A word was omitted from each line. Groups of words were listed under numbers and the Group C children were to make the rhyme as funny as possible. They selected a word from the list in which the number corresponded to the number written in the space on the card. In Group B they selected the word and read the line orally, adding the word.

7. After the cards had been introduced by the teacher, they were left on the chalk tray and the children copied the words as they read them. In Group B they read the cards.

8. The teacher selected one phonogram introduced on a card in the day's lesson. The children added words that rhymed. In Group B this was oral and in Group C the words were written.

9. Phrases and sentences were given by the children, using words from the cards. They were written in Group C, oral in Group B.

10. Phrases and sentences prepared by the teacher were copied in Group C and then read orally, were underlined in Group B and read orally.

All of these exercises were done in both groups by children working in teams of two or three.

Differentiation of Instruction

All three treatment groups followed programs which adjusted to levels and progress rates. Rapid learning groups moved through the Scott-Foresman readers as fast as possible and moved into supplementary readers. The slow learners moved at a slower pace and additional practice was provided. The members of the staff worked some with those people and brought additional practice material for them. The differential learning factor of the Speech-to-Print Phonics has been indicated.

Provision was made in all three treatment groups for intensity of practice by using paired-practice in oral reading and by every-pupil response methods which eleminate "waiting turns".

Supervisory and Teacher Education Activities

The Director met separately with the teachers in each treatment group and explained the program and the plans for conducting the study. This was the only formal session. Each class was visited each week to observe the program and to help the teacher with special problems. Demonstrations were done by the staff members in the classrooms at the request of a teacher and sometimes to clear up a problem which was evidenced during the weekly visits. The test results were brought to the teacher and discussed with her. Samples of checks for library books were supplied as the able readers moved along in the program.

Population

The 30 classrooms were selected by the administrative staff in the three industrial cities involved. Five classrooms from each of two communities comprised the population for Treatment A, five other classrooms from each of the same two communities comprised Treatment B, and 10 classrooms from a third community furnished the population for Treatment C. In selecting the classes, care was taken to include at least three classrooms in each treatment group which were located in "culturally deprived" areas and to match the classrooms through studies of the intellectual abilities and reading achievements of pupils in the schools in June 1964, under the teachers who were to be involved in the study.

The entrance age for children in grade one in all three communities is five years eight months by September 1. Kindergartens are part of the public school systems in two of the communities. There is no public kindergarten in the third.

The enrollment in September in the three treatment groups by classes follows:

Class	Group A	Class	Group B	Class	Group C
1	35	1	27	1	32
2	29	2	26	2	36
3	29	3	26	3	34
4	35	4	31	4	33
5	32	5	22	5	31
6	17	6	26	6	33
7	19	7	30	7	30
8	18	8	26	8	25
9	22	9	23	9	25
10	19	10	30	10	26

The class size ranged for Treatment A, from 17 to 35, with an average enrollment of 25.5; for Treatment Group B, from 22 to 31, with an average of 26.7; for Treatment C, from 25 to 36, with an average of 30.5. The mean IQ's were 92.45, 92.80, 92.93 for Treatment A, B and C respectively.

Inventories Constructed

Group

1. Capital and Lower-case Letters

These tests measured the child's ability to identify the twenty-six capital and lower-case letters when they were named by the examiner. Each letter was tested in a group of five letters as:

E	F	A	V	L
o	s	y	b	m

The child circled the letters as they were named in this order:

A O X L F N P S I R C T B D G H E J Y W M K Z V U Q

s e x y k h z l a c w t m b p q d r g f i j n u o v

The score was the number correct.

2. Sounds in Isolation

Knowledge of these 42 sounds was measured: consonants b, c, (hard and soft) d, f, g (hard and soft) h, j, k, l, m, n, p, q, r, s, t, v, w, y; digraphs ch, sh, th, wh; consonant blends bl, br, cl, dr, fl, fr, gr, pl, pr, sc, sk, sl, sm, sn, sp, st, sw. Each item that was being tested was presented in a group of five letters or five blends as:

m	p	y	s	l
sm	br	sh	sw	ch

The child circled the sound given by the examiner. The score was the number correct.

3. Sounds in Words

The items included in this inventory were: b, c (hard and soft) d, f, g (hard and soft) k, j, k, l, m, n, p, q, r, s, t, v, w, y, bl, br, cl, dr, fl, fr, gr, pl, sc, sk, sl, sm, sn, sp, st, sw, tr, ch, sh, th and wh as beginning sounds; b,d,f,g,k,l,m,n,p,r,s,t,y,ch and sh as final sounds. Each sound to be tested was presented in a group of five letters or blends as:

c	f	p	h	w
ch	br	sl	gr	pl

The child circled the beginning or final sound in a word presented by the examiner. The words dictated for initial sounds were: cut, pillow, jump, very, bat, let, nurse, young, mat, George, city, gas, farm, quiz, sir, tell, ship, space, race, slip, black, snack, traffic, dime, clown, star, play, Frank, wind, ski, chick, breeze, flash, thing, scare, smart, white, switch, greet, drug, hose, and kite. For final sounds the words were: bush, gum, tag, watch, red, cars, baby, bun, it, here, book, shop, scrub, till and puff.

The score was the number correct.

4. Recognition of Phonograms

Three tests similarly constructed, one of 32 items used in November, a second of 64 items used in January and a third of 96 items used in May, measured the child's ability to identify a phonogram named by the examiner. The phonograms were selected from the 170 phonograms introduced in the applied phonics cards of the Speech-to-Print Phonics. Items selected for the first test had been presented three or more times on the cards. Care was taken to include some items of each of the vowels. Frequency in the lessons was considered in the January test. In order to get a ceiling in the May test, 32 items were included which the children had had little or no experience with, nine had been included only once in the lessons and 23 had not been introduced at all. These phonograms were presented in a group of four phonograms as:

eek eck ack ark

The child circled the one dictated by the examiner. In this sample, he circled eek. The score was the number correct.

5. Homonym Spelling

Ten pairs of homonyms which had been introduced on the applied phonic cards of the Speech-to-Print Phonics were dictated in sentences. The examiner read a sentence and then said the word which the child was to write, as:

The boat had a white sail. sail.

The house is for sale. sale.

The sentences were arranged so that the two homonyms would not be together. The sample items given above were numbers 1. and 11. in the list of 20 sentences. The score was the number of words written correctly.

6. Recognition of Homophones

This test consisted of 39 groups of four phonograms each. Following three practice units in which the procedure was explained, the children were asked to complete the rest alone. The first four units after the practice exercise follow:

1.	2.	3.	4.
are	it	urn	od
air	ight	oon	ould
ere	eight	orn	ood
ear	ite	earn	ad

The examiner said, "Listen and look carefully. In Box 1, circle all of the groups that say are (bare).

In Box 2, circle all of the groups that say ite. (kite)

In Box 3, circle all of the groups that say urn. (burn)

In Box 4, circle all of the groups that say ood. (good)" etc.

In some of the groups the four were to be marked as in Box 1; in some three were marked as in Box 2; in some only two were correct as in Boxes 3 and 4. There were 93 possible items. The score was the number right minus the number wrong.

Individual Inventories

1. Names of capital and lower-case letters

The children were given a card with the capital letters printed in primer type in this order:

O X A B S T R N C I P L E H K M Y D Z W J F U Q G V

and the lower-case letters in this order:

o x s c i p y k m w z e a n r t j w u f b h g d l g

The examiner said, "What is the name of this letter?" as he pointed to each letter. Errors were circled on a scoring sheet similar to the one the child read. The score was the number of letters named correctly.

2. Sounds in Isolation

The letters were printed in primer type in this order:

s b c t p m f h d r l g w n k j v y q z a e l o u x

The examiner said, "What does this letter say?" (pointing to each letter). Either long or short sound was accepted for the vowels and either hard or soft C and G were considered correct. The score was the number of sounds given correctly.

3. Applied Phonics

This test consisted of 20 items as:

bake - wake

told - hold, etc.

The examiner read the first word in each pair and the child read the second:

"This says bake, what does this say?"

The score was the number of words read correctly by the child.

4. Vocabulary

The vocabulary from three sources, the Scott-Foresman primer, the words written on the board in the Speech-to-Print lessons, and the words introduced on the applied phonics cards of the Speech-to-Print lessons, was inventoried by having the child read stories with words from the three sources.

The 114 words included in the Scott-Foresman primer through Page 77, were written into three stories--Trip to a Farm. Pet Rabbits and About a Birthday.

A random sampling of 226 of the 546 different words from the board lessons were used in three stories--The Park, Summer Vacation and The Surprise Ride. A random sampling of 203 of the 556 words introduced on the applied phonics cards were written into three stories, The Old Man and His Pets, A Trip to the Lake, and A Fox and a Snail.

The stories were typed in primer type and combined into a booklet from which the child read. The words to be tested were underlined. The examiner read the words not underlined and the child read the underlined words. Repetition of words was kept at a minimum. One of the stories follows:

Trip to a Farm

All the family, Mother, Father, Dick, Jane and Sally went for a ride to see something at the farm. They rode in a red car. They saw four animals, a big cow, a duck who said "Quack", a horse and a baby pig.

"I guess we can get pets here", said Sally.

"Yes", said Dad. "We will look at some."

"Hello, this is a funny yellow duck that talks."

They had fun but soon it was time to go home and they all said, "Good-by".

The score was the number of words read by the child. The examiner scored an individual sheet which was identical to the child's booklet except it was in small type which fitted on a single sheet front and back. Copies of all of these inventories with directions for administering are in the appendix.

Standard Tests

1. Murphy-Durrell Diagnostic Reading Readiness Test, Harcourt, Brace & World Inc., New York, 1964.

This test measures the following word-element perception abilities at school entrance:

(1) Identification of phonemes in spoken words

(2) Identification of capital and lower-case letters by name

(3) Learning rate for words

Two each of 19 different phonemes in the initial position and five in the final position are tested through pictures. The letter identification includes the 26 capital and lower-case letters and the learning rate is based on nine words. All parts of the test are group procedures.

Reliabilities for the sub-test scores are .94 for Phonemes, .94 for Capital letters, .90 Lower-case letters, .88 Learning Rate and for the total test .98.

2. Detroit Word Recognition Test, Harcourt, Brace & World Inc., New York, 1953.

This is a 40-item test of words and phrases which the child matches to pictures. The time allowed, following the completion of six practice items, is four minutes. The reported reliabilities for Grades 1B, 1A, 2B and 2A are .95, .93, .84, and .96 respectifely.

3. Stanford Achievement Test Primary I Battery, Harcourt, Brace & World Inc., New York, 1964.

The battery included:

(1)	Word Reading	15 minutes
(2)	Paragraph Meaning	25 minutes
(3)	Vocabulary	Teacher-Dictated (approx 18 min.)
(4)	Word Study Skills	Teacher-Dictated (approx 15 min.)

The reported reliabilities are .85, .90, .79, .92, and .88 for Word Reading, Paragraph Meaning, Vocabulary, Spelling and Word Study Skills respectively.

4. Pintner-Cunningham Primary Test, Harcourt, Brace & World Inc. New York 1964.

This test has seven sub-tests:

(1)	Common Observation	30 seconds	
(2)	Aesthetic Differences	10 seconds ea	(6 items)
(3)	Associated Object	15 seconds ea	(6 items)
(4)	Discrimination of Size	15 seconds ea	(4 items)
(5)	Picture Parts	30 seconds ea	(3 items)
		45 seconds	(1 item)
		1 minute	(1 item)
(6)	Picture Completion	10 seconds ea	(7 items)
		1 minute	(1 item)
(7)	Dot Drawing	15 seconds	(1 item)
		30 seconds	(1 item)
		2 minutes	(1 item)

The reported reliability is .88.

Writing Samples

Two writing samples were obtained from each child following the directions submitted from the Cooperative Research Project. Both samples were completed under the direction of the classroom teachers. In the first measure, pupils were asked to write a story. No other help was given beyond encouraging them to write. In the second administration, the normal writing situations and procedures employed by the classroom teachers were used. These samples were scored according to the directions from the Center as follows:

1. Capitalization: one point for each correct capital in the title, at the beginning of a sentence, a proper name, a day or month, capitalized "I". The mechanics-ratio score for capitalization was the number correct over the number possible.

2. Punctuation: one point for each correct period, question mark, exclamation mark, each set of quotation marks and each comma in a direct quote. The mechanics-ratio score for punctuation was the number correct over the number possible.

3. Indentation: one point for each correctly indented paragraph. The total mechanics-ratio score was recorded as percent.

4. Spelling: The number of spelling errors was recorded. A word incorrectly capitalized was recorded as a spelling error. The number of errors was subtracted from the total number of running words.

The Testing Program Calendar

September

Murphy-Durrell Diagnostic Reading Readiness Test.

Pintner-Cunningham Primary Test.

October

Identification of Capital and Lower-case Letters.

November

- Identification of Capital and Lower-case Letters.
- Identification of Sounds in Isolation.
- Identification of Sounds in Words.
- Identification of Phonograms.

January

- Group
  - Identification of Capital and Lower-case Letters.
  - Identification of Sounds in Isolation.
  - Identification of Sounds in Words.
  - Identification of Phonograms.
  - Detroit Word Recognition.
- Individual
  - Naming Capital and Lower-case Letters.
  - Naming Sounds in Isolation.
  - Applied phonics.
  - Inventory of Scott-Foresman Vocabulary
  - Inventory of Board Words from Speech-to-Print Lessons.
  - Inventory of Card Words from Speech-to-Print Lessons.

May

- Stanford-Achievement:
  - Word Reading
  - Paragraph Meaning
  - Vocabulary
  - Spelling
  - Word Study Skills
- Two samples of Written Composition
- Recognition of Homophones
- Homonym Spelling

Identification of Capital and Lower-case Letters
Identification of Sounds in Isolation
Identification of Sounds in Words
Identification of Phonograms

In addition to the above program, the following tests were administered and scored and the results submitted to the University of Minnesota for the National First Grade Study. The analysis of these data is not part of this study.

September

Metropolitan Readiness Test Form A., Harcourt, Brace & World Inc., New York, Standardization Edition, 1964.

Two Thurstone Tests, Pattern Copying and Identical Forms--a Test of Perceptual Speed. (Special permission granted for both by Thelma G. Thurstone for experimental use only with the "First Grade Reading Study" sponsored by The Cooperative Research Branch of the United States Office of Education.)

May

An Inventory of Reading Attitude--San Diego County Public Schools, San Diego, California. Standardization Edition.

The following individual tests were administered to a random sampling of five children in each of the 30 classrooms--150 in all:

Gilmore Oral Reading Test, Form A., Harcourt, Brace & World Inc., New York, 1951.

Karlson Phonemic Word Test--40 words

Phonetically Regular Words Oral Reading Test--30 words

Gates Word Pronunciation Test--40 words.

The Testing Procedure

All of the tests, with the exception of The Stanford Test in April, were administered and scored by the Research Group and advanced graduate students at Boston University. The Stanford tests were administered by the classroom teachers with a staff person present to help. The scoring was all done by the Research Staff.

The September tests were all administered within a two-week period. The results of the Murphy-Durrell test were given to each teacher within a week, since the skills measured were the ones that would be stressed in the program to be undertaken in two of the Treatment Groups--A and B.

The October tests were administered within a two-day period following the completion of the 10-day program for teaching the letter names. These were scored immediately and the individual children's scores given to the classroom teachers. In case any letters were not known, the specific letters were listed beside the child's name so that additional teaching could be provided.

The November tests were administered within a three-day period and the scores for each child were returned to the teachers.

The group tests in January, following the completion of Speech-to-Print program, were administered in the 30 classrooms the same day. The individual testing continued for a three-week period. Some classrooms in each treatment group were done each day in order to distribute fairly the amount of teaching which had taken place.

All of the Stanford Tests and the random sampling of individual tests were administered April 28, 29 and 30, 1965. The 140th day of instruction was April 16, 1965. The schools closed that day for Spring recess and reopened on April 26. It seemed wise to take two days for adjustment to school again before the tests were administered. The remainder of the program was completed within a two-week period.

ANALYSIS OF DATA AND FINDINGS

The data were analyzed to discover:

1. The patterns of growth for the three treatment groups on the word perception skills, including identification of capital and lower-case letters named and identification of sounds in words and sounds in isolation.

2. The effect of the three treatments on achievement in reading and spelling for the total populations and for girls and boys within each population.

3. The relationship of scores on the word perception tests and achievement in reading and spelling in January and April, and

4. The effect of the three treatments on the number of words spelled correctly, the number of running words written, and the mechanics ratio of written compositions of the children.

The groups were matched on the sub-test scores of the Murphy-Durrell Reading Readiness Test, including Phonemes, Letter Names and Learning Rate; and on intelligence as measured on the Pintner-Cunningham Primary Test. Table I shows the means and standard deviations for the entire population of the three treatment groups in September.

TABLE I

Means and Standard Deviations for Entire Population on September Tests

Group	Number	Test	Mean	S.D.
A	255	Phonemes	20.24	14.34
B	267		20.11	13.56
C	302		22.13	13.48
A	255	Capital Letters	16.01	9.10
B	267		17.70	9.22
C	302		17.44	8.41
A	255	Lower-case Letters	12.87	7.73
B	267		13.48	7.61
C	302		13.68	7.61
A	255	Learning Rate	6.76	4.62
B	267		7.21	3.45
C	302		6.70	4.35
A	255	IQ	92.45	14.65
B	267		92.80	14.20
C	302		92.93	13.40

The number of children in each group changed during the year. The final groups included 214 children in Group A, The Scott-Foresman program, 243 in Group B, Speech-to-Print with visual word study, and 273 in Group C, Speech-to-Print with emphasis on writing practice. The scores on the September tests for the three groups were compared through an analysis of variance, and the Duncan[1] Test for Multiple Comparisons was used to determine the significance of any differences among the groups.

---

[1] Duncan, David B. "Multiple Range and Multiple F Tests." Biometrics, 11 (1955) p.1.

Table II presents the results of the September tests for the three groups, through an analysis of variance.

TABLE II

Mean Scores of September Tests for All Groups

Test	Group	No.	Mean	S.D.	F
Phonemes	A	214	20.24	14.34	1.15
	B	243	21.11	13.56	
	C	273	22.14	13.49	
Capital Letters	A	214	16.01	9.10	2.33
	B	243	17.70	9.22	
	C	273	17.44	8.41	
Lower-case Letters	A	214	12.87	7.73	.69
	B	243	13.48	7.61	
	C	273	13.68	7.61	
Learning Rate	A	214	6.54	4.73	12.01**
	B	243	8.54	4.93	
	C	273	6.96	4.34	
Mental Age	A	214	69.24	11.49	
	B	243	70.22	13.07	
	C	273	70.49	11.79	

**Significant at 1% level.

The groups were similar on all measures except Learning Rate. Group B was superior to the other groups on Learning Rate and this difference was significant at the 1% level.

According to the test norms, all groups were in the lowest quartile on phonemes and in the second quartile on both capital and lower-case letters. Groups A and C were in the lowest quartile on learning rate and Group B was in the second quartile on this measure.

There was a great deal of absence in the three groups. If children who had been absent twenty or more days were excluded from the study, 32 children in Group A 20 in Group B, and 74 in Group C would be dropped. This would result in populations under 200, so it was decided to include all children who had had the September and April tests and to report the absences for each group.

TABLE III

Distributions of Number of Days Absence for the Three Groups

No. Days	Group A	Group B	Group C
55-59	2	0	2
50-54	0	0	2
45-49	0	1	0
40-44	0	1	3
35-39	0	0	3
30-34	1	1	5
25-29	5	8	20
20-24	24	9	39
15-19	14	28	47
10-14	34	44	65
5-9	73	86	62
0-4	61	65	25
Total	214	243	273
Mean	9.40	9.20	15.00
S.D.	7.95	6.10	9.65

The number of days of absence ranged for Group A from 0-59, with a mean of 9.40 days, for Group B, from 0-49 with a mean of 9.20 days, and for Group C, from 0-59 with a mean of 15 days.

Analysis of Growth Patterns

Growth patterns for the three groups on the Identification of Capital and Lower-case Letters Named, Sounds in Isolation, and Sounds in Words, were established by a trend analysis, using the scores on the tests administered in September, November, January and May.

Table IV shows the mean scores for the groups on the test of Identification of Capital Letters Named in September, November, January and May.

TABLE IV

Mean Scores on Tests of Identification of Capital Letters Named

Group	No.	September	November	January	May
A	214	16.01	22.25	24.18	25.21
B	243	17.70	24.57	25.03	25.63
C	273	17.44	24.87	25.19	25.44

The groups were comparable in September and May, when the ceiling of the test was reached.

Table V shows the results of the trend analysis on the ability to identify Capital Letters Named.

TABLE V

Trend Analysis of Identification of Capital Letters

Source	DF	Sum SQ	Mean SQ	F
Trials	3	32834.54	10944.85	577.01
Linear	1	22036.82	22036.82	686.77
Quad.	1	9172.99	9172.99	492.97
Res.	1	1624.74	1624.74	262.26
Groups	2	1056.10	528.05	9.81
Subjects	727	39124.61	53.82	2.83
Grp x Trial	6	411.57	68.59	3.61*
Linear	2	217.74	108.87	3.39*
Quad	2	71.08	35.54	1.90
Res.	2	122.75	61.38	9.90
Error	2181	41369.14	18.97	
Linear	727	23337.84	32.10	
Quad.	727	13527.61	18.61	
Res.	727	4503.70	6.19	

* Significant at 5% level.

The means showed steady growth for each group as would be expected in a normal situation. The quadratic slope showed rapid growth for all treatment groups from September to November with Groups B and C higher than A. There was a leveling off in all groups as the ceiling of the test was reached. The diagram on Page 44 shows the patterns of growth on identifying capital letters named, for the three treatment groups.

Table VI shows the mean scores on the tests of identification of lower-case letters named for the three groups at each testing period, September, November, January and May.

TABLE VI

Mean Scores on Identification of Lower-case Letters Named

Group	No	September	November	January	May
A	214	12.87	19.50	22.44	24.24
B	243	13.48	22.65	23.91	24.93
C	273	13.68	23.28	24.12	24.80

The mean scores were comparable in September and in May, when the ceiling of the test was reached.

Table VII shows the trend analysis for the three groups on the ability to identify lower case letters named.

TABLE VII

Trend Analysis for Identification of Lower-case Letters Named

Source	D.F.	Sum SQ	Mean SQ	F test
Trials	3	57738.83	19246.28	1245.25
Linear	1	42148.70	42148.70	1708.48
Quadratio	1	13593.72	13593.72	913.27
Res.	1	1996.41	1996.41	293.06
Groups	2	1573.68	786.84	12.17
Subjects	727	46980.98	64.62	4.18
Grp x Trial	6	836.32	139.87	9.01**
Linear	2	70.42	35.21	1.42
Quadratio	2	421.46	210.73	14.15**
Res.	2	344.44	172.22	25.28
Error	2181	33708.85	15.46	
Linear	727	17935.27	24.67	
Quad	727	10821.05	14.88	
Res.	727	4952.53	6.81	

**Significant at 5% level

The mean scores showed steady improvement starting from a similar score in September. There was rapid growth from September to November for all groups, but that of Groups B and C was significantly ahead of Group A. The quadratio slope evened off for all groups as the ceiling of the test was reached in May. Diagram on Page 44 shows the slope patterns for the three groups .

Table VIII shows the mean scores for the three groups on the tests of identification of sounds in isolation at the four testing periods, September, November, January and May.

TABLE VIII

Mean Scores on Tests of Sounds in Isolation

Group	No.	September	November	January	May
A	214	20.06	22.64	30.32	36.48
B	243	21.11	28.09	32.86	37.30
C	273	22.14	32.54	35.23	37.76

The groups were comparable in September and again in May, as the ceiling of the test was reached.

Table IX shows the trend analysis for the three groups on the ability to identify sounds in isolation.

TABLE IX

Trend Analysis of Identification of Sounds in Isolation

Source	DF	Sum Square	Mean Square	F Test
Trials	3	103252.03	34417.34	[illegible]3.23
Linear	1	98740.44	98740.44	1253.92
Quadratio	1	4500.97	4500.97	89.30
Res.	1	10.62	10.62	.41
Groups	2	9693.73	4846.87	17.97
Subjects	727	195983.87	269.58	5.23
Grp x trial	6	5587.99	931.33	18.08**
Linear	2	459.59	229.89	2.91
Quadratio	2	3258.29	1629.14	32.32**
Res.	2	1870.12	935.06	36.86
Error	2181	112332.23	51.50	
Linear	727	57247.73	78.75	
Quad.	727	36642.43	50.40	
Res.	727	18442.07	25.37	

** Significant at 1% level

The means showed significant gains for all groups at each testing period. The quadratio slope showed more rapid growth for Groups B and C, the differences being significant at the 1% level in November and January. All groups reached the ceiling of the test in May. The diagram on Page 44 shows the growth patterns for the three groups on the tests of Sounds in Isolation.

Table X shows the mean scores for the three groups on the tests of recognition of sounds in words at the four testing periods, September, November, January and May.

TABLE X

Mean Scores on Tests of Sounds in Words

Group	No.	September	November	January	May
A	214	20.24	26.20	37.71	45.00
B	243	21.11	33.47	43.14	49.71
C	273	22.14	39.82	45.73	49.35

Table XI shows the trend analysis for the three groups on the test to identify sounds in words.

TABLE XI

Trend Analysis of Sounds in Words (all groups)

Source	DF	Sum Square	Mean Square	F Test
Trials	3	317471.19	105823.73	1376.31
Linear	1	299402.91	299402.91	2978.19
Quadratic	1	18067.51	18067.51	225.27
Res.	1	.77	.77	.01
Groups	2	18679.25	9339.63	19.43
Subjects	727	349360.54	480.55	6.24
Grp x trial	6	12301.50	2050.25	26.66**
Linear	2	828.89	414.45	4.12*
Quadratio	2	8656.52	4328.26	53.96**
Res.	2	2816.09	1408.04	28.19
Error	2181	167695.81	76.89	
Linear	727	73086.47	100.53	
Quadratio	727	58307.48	80.20	
Res.	727	36301.85	49.93	

* Significant at 5% level

** Significant at 1% level

There were significant gains on the mean scores for all groups at each measuring period. The quadratio slope showed rapid progress in November and January for Groups B and C with the differences in means being significantly higher than that of Group A. All groups leveled off as they approached the ceiling of the test in May. The diagram on Page 44 shows the growth patterns for the test of sounds in words for the three groups.

Figures 1, 2, 3 and 4 show the growth patterns for the three groups on Identification of Capital and Lower-case letters, Sounds in Isolation and Sounds in Words.

Figure 1
Capital Letters

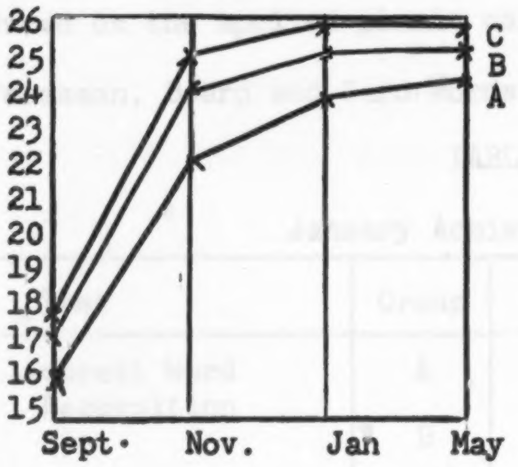


Figure 2
Lower-case Letters

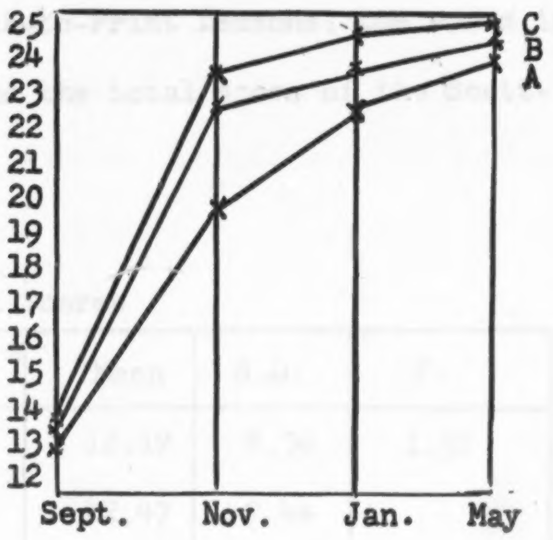


Figure 3
Sounds in Isolation

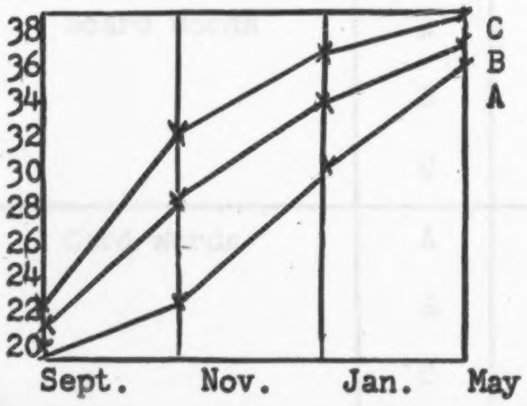
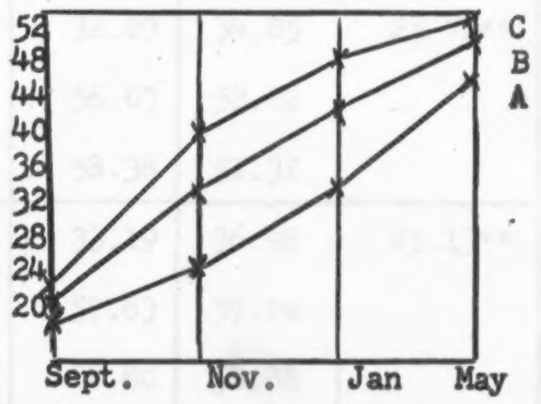


Figure 4
Sounds in Words



Comparison of Achievement Scores of the Three Groups.

The mean scores of the achievement tests of the three groups in January and April were compared through an analysis of variance.

Table XII shows the comparison of the mean scores of the three groups on the achievement tests administered in January, including the Detroit Word Recognition Test, The Scott-Foresman Vocabulary, the words introduced on the board in the Speech-to-Print Lessons, the words introduced on the applied phonic cards and the total score of the Scott-Foresman, Board and Card Words.

TABLE XII

January Achievement Scores

Test	Group	No.	Mean	S.D.	F.
Detroit Word Recognition	A	203	12.17	8.39	1.57
	B	234	12.47	7.44	
	C	273	11.26	8.25	
Scott-Foresman Vocabulary	A	203	75.06	27.41	3.89*
	B	234	81.60	28.62	
	C	273	75.80	30.73	
Board Words	A	203	32.03	34.05	25.72**
	B	234	56.03	38.02	
	C	273	58.38	51.32	
Card Words	A	203	33.19	36.98	23.13**
	B	234	57.83	57.76	
	C	273	64.80	54.88	
Total Reading	A	203	141.02	90.72	18.40**
	B	234	192.25	96.93	
	C	273	198.98	130.11	

* Significant at 5% level
** Significant at 1% level

Table XII showed no significant differences between the mean scores of the three groups on the Detroit Word Recognition Test, nor the Scott-Foresman Vocabulary. The differences were significant at the 1 percent level on the Board Words, Card Words and Total Reading score for Group C.

The Detroit Test and the Scott-Foresman Vocabulary were measures of the vocabulary which had been taught in the reading lessons. The Board and Card Words had been learned incidentally as no attempt had been made to fix these words.

Table XIII shows the comparison of the mean scores on the Stanford Achievement Test in April for the three groups.

TABLE XIII

Stanford Achievement Tests--April

Test	Group	Number	Mean	S.D.	F
Word Reading	A	217	22.53	7.23	14.48**
	B	245	25.64	7.53	
	C	275	22.40	7.82	
Paragraph Meaning	A	217	20.48	8.63	15.56**
	B	245	25.06	8.86	
	C	275	21.37	10.65	
Vocabulary	A	217	21.62	6.21	7.69**
	B	245	23.67	7.16	
	C	275	23.83	6.76	
Spelling	A	217	11.66	6.08	13.78**
	B	245	10.80	6.33	
	C	275	13.59	6.21	
Word Study Skills	A	217	37.31	10.69	9.56**
	B	245	38.29	11.37	
	C	275	41.36	10.52	

** Significant at 1% level.

There were significant differences at the 1 percent level on all of the tests. The differences on Word Reading and Paragraph Meaning favored Group B, and those on Vocabulary, Spelling and Word Study Skills, Group C.

Table XIV shows the grade equivalents for the raw scores on the Stanford Achievement Test as reported in Table XIII.

TABLE XIV

Grade Equivalents on Stanford Achievement Tests

Test	Group	Raw Score	Grade Equivalent
Word Reading	A	23	1.9
	B	26	2.1
	C	22	1.8
Paragraph Meaning	A	20	1.7
	B	25	1.9
	C	21	1.8
Vocabulary	A	22	1.9
	B	24	2.2
	C	24	2.2
Spelling	A	12	2.0
	B	11	1.9
	C	14	2.2
Word Study Skills	A	37	1.9
	B	38	2.0
	C	41	2.2

The Stanford tests were administered the last three days in April, so that 1.8 is the norm for the grade equivalent. With the exception of Group A on Paragraph Meaning, all groups were at least at grade level on all measures. All groups were above grade level on Vocabulary, Spelling and Word Study Skills.

Inherent in the design of the Speech-to-Print Lessons is the introduction of varied spellings for the same sound. The homophone test measures the child's ability to recognize these varied spellings. Table XV shows the comparison of mean scores for the three groups in May.

TABLE XV

Mean Scores on Homophone Test--May

Group	Number	Mean	S.D.	F
A	203	39.59	12.21	17.75**
B	234	38.71	12.51	
C	273	45.49	16.10	

**Significant at the 1% level

The difference was significant at the 1 percent level in favor of Group C. There was little difference between Groups A and B.

Table XVI shows the mean scores for the three groups on the Homonym Spelling Test, administered in May.

TABLE XVI

Mean Scores on Homonym Spelling Test--May

Group	Number	Mean	S.D.	F
A	203	3.11	3.84	24.11**
B	234	2.64	3.34	
C	273	5.19	5.45	

**Significant at the 1% level

The difference was significant at the 1 percent level in favor of Group C. There was little difference between Groups A and B.

Sex Differences in Achievement

Table XVII shows the mean scores on the September tests for the boys and girls in Group A.

TABLE XVII

Mean Scores September Tests--Boys and Girls--Group A

Test	Group	No.	Mean	S.D.	F
Mental Age	Boys	112	68.50	11.16	.98
	Girls	102	70.06	11.80	
Phonemes	Boys	112	19.06	14.02	1.59
	Girls	102	21.54	14.58	
Capital Letters	Boys	112	15.67	9.25	.33
	Girls	102	16.39	8.92	
Lower-case Letters	Boys	112	12.68	7.09	.15
	Girls	102	13.09	7.43	
Learning Rate	Boys	112	6.26	4.86	.95
	Girls	102	6.89	5.57	

There were no significant differences between the boys and girls in Group A on any of the September measures.

Table XVIII shows the mean scores for the boys and girls in Group B on the September tests.

TABLE XVIII

Mean Scores on September Tests--Boys and Girls--Group B

Test	Group	No.	Mean	S.D.	F
Mental Age	Boys	131	69.13	12.63	1.97
	Girls	112	71.49	13.45	
Phonemes	Boys	131	19.69	13.82	3.13
	Girls	112	22.77	13.17	
Capital Letters	Boys	131	17.02	9.53	1.54
	Girls	112	18.49	8.78	
Lower-case Letters	Boys	131	12.62	7.65	3.65
	Girls	112	14.48	7.45	
Learning Rate	Boys	131	8.21	4.94	1.20
	Girls	112	8.91	4.90	

There were no significant differences between the boys and girls in Group B on any of the September measures.

Table XIX shows the mean scores on the September tests for the boys and girls in Group C.

TABLE XIX

Mean Scores on September Tests--Boys and Girls--Group C

Test	Group	No.	Mean	S.D.	F
Mantal Age	Boys	148	70.22	10.22	6.91**
	Girls	124	70.63	10.64	
Phonemes	Boys	148	20.92	13.31	2.98
	Girls	124	23.74	13.47	
Capital Letters	Boys	148	16.31	8.46	6.64*
	Girls	124	18.91	8.03	
Lower-case Letters	Boys	148	12.42	7.10	9.71**
	Girls	124	15.27	7.15	
Learning Rate	Boys	148	7.05	4.45	.12
	Girls	124	6.87	4.22	

* Significant at 5% level
**Significant at 1% level

There were differences significant at the 1 percent level favoring the girls on Mental Age and Knowledge of Capital and Lower-case letters. The differences on Phonemes and Learning Rate were not significant.

The achievement scores of the boys and girls were compared with mental age controlled, using a covariance analysis.

Table XX shows the comparison of the mean scores of the boys and girls in the three groups on the Detroit Word Recognition Test in January, with mental age controlled.

TABLE XX

Mean Scores of Boys and Girls on Detroit Test, January

Group	Sex	No.	Mean	Adj Mean	F
A	Boys	104	11.34	11.53	2.05
	Girls	97	13.13	12.99	
B	Boys	124	11.23	11.48	5.70*
	Birls	108	13.87	13.56	
C	Boys	145	10.13	10.64	3.94*
	Girls	123	12.95	12.35	

*Significant at 5% level

There were differences significant at the 5 percent level, favoring the girls in Groups B and C. The difference between the boys and girls in Group A was not significant

Table XXI shows the comparison of the mean scores of the boys and girls in the three groups on the Scott-Foresman vocabulary in January with mental age controlled.

TABLE XXI

Comparison of Scores of Boys and Girls on Scott-Foresman Vocabulary

Group	Sex	No.	Mean	Adj Mean	F
A	Boys	104	72.63	73.06	1.60
	Girls	97	77.80	77.34	
B	Boys	124	79.22	80.78	.50
	Girls	108	84.02	82.68	
C	Boys	145	71.81	73.54	5.10*
	Girls	123	82.79	80.75	

* Significant at 5% level.

The difference between the scores of the boys and girls in Group C on the Scott Foresman vocabulary was significant at the 5 percent level. The differences between the boys and girls in Groups A and B were not significant, but both favored the girls.

Table XXII shows the comparison of mean scores for the boys and girls of the three groups on the board words from Speech-to-Print Lessons, in January, with mental age controlled.

TABLE XXII

Comparison of Mean Scores of Boys and Girls on Board Words--January

Group	Sex	No.	Mean	Adj Mean	F
A	Boys	104	31.82	32.30	.00
	Girls	97	32.72	32.21	
B	Boys	124	53.72	55.38	.25
	Girls	108	59.39	57.48	
C	Boys	145	53.21	55.81	1.88
	Girls	123	66.70	63.63	

There were no significant differences between the boys and girls in any of the groups on the board words in January when mental age was held constant.

Table XXIII shows the comparison of mean scores for the boys and girls of the three groups on the words introduced on the cards of Speech-to-Print lessons in January with mental age controlled.

TABLE XXIII

Comparison of Mean Scores of Boys and Girls on Card Words--January

Group	Sex	No.	Mean	Adj Mean	F
A	Boys	104	32.02	32.55	.146
	Girls	97	34.92	34.35	
B	Boys	124	59.21	60.91	.735
	Girls	108	56.76	54.80	
C	Boys	145	60.22	62.97	1.43
	Girls	123	72.76	69.52	

There were no significant differences between the boys and girls in any group on the card words when mental age was controlled.

Table XXIV shows the comparison of the mean scores of the boys and girls of the three groups on the total score of Scott-Foresman Board and Card words in January with mental age controlled.

TABLE XXIV

Comparison of Mean Scores of Boys and Girls--Total Reading-January

Group	Sex	No.	Mean	Adj Mean	F
A	Boys	104	138.12	139.56	.14
	Girls	97	145.24	143.69	
B	Boys	124	185.42	189.78	.27
	Girls	108	200.28	195.27	
C	Boys	145	185.24	192.32	2.35
	Girls	123	222.24	213.90	

There were no significant differences between the boys and girls in any group on the total reading score in January with mental age controlled.

Table XXV shows the comparison of the mean scores of the boys and girls of the three groups on the Stanford Word Meaning Test in April with mental age controlled.

TABLE XXV

AprilComparison of Mean Scores of Boys and Girls on Stanford Word Meaning

Group	Sex	No.	Mean	Adj Mean	F
A	Boys	104	21.92	22.08	.255
	Girls	105	22.73	22.55	
B	Boys	101	24.44	24.78	4.34*
	Girls	104	26.91	26.52	
C	Boys	106	21.56	21.98	2.91
	Girls	104	23.94	23.45	

* Significant at 5% level

The difference between the scores of the boys and girls in Group B was significant at the 5 percent level favoring the girls. There were no significant differences in the scores of the boys and girls in Groups A and C.

Table XXVI shows the comparisons of the mean scores of the boys and girls of the three groups on the Stanford Paragraph Meaning Test in April with mental age controlled.

TABLE XXVI

Comparison of Mean Scores of Boys and Girls on Paragraph Meaning--April

Group	Sex	No.	Mean	Adj Mean	F
A	Boys	104	19.91	20.12	.05
	Girls	105	20.60	20.37	
B	Boys	101	23.71	24.16	3.99*
	Girls	104	26.54	26.03	
C	Boys	106	19.29	19.90	12.97**
	Girls	104	24.68	23.96	

* Significant at 5% level.
** Significant at 1% level.

The difference between the scores of the boys and girls on Paragraph Meaning in Groups B and C were significant in favor of the girls. Group B at the 5 percent level and Group C at the 1 percent level. The difference between the boys and girls in Group A was not significant.

Table XXVII shows the comparisons of the mean scores of the boys and girls of the three groups on the Stanford Vocabulary test in April with mental age controlled.

TABLE XXVII

Comparison of Mean Scores of Boys and Girls on Vocabulary--April

Group	Sex	No.	Mean	Adj Mean	F
A	Boys	104	22.16	22.32	6.64*
	Girls	105	22.61	20.43	
B	Boys	101	22.83	23.12	2.60
	Girls	104	24.78	24.58	
C	Boys	106	23.54	23.89	.14
	Girls	104	24.58	24.17	

Significant at 1% level

The difference between the scores of the boys and girls in Group A was significant at the 1 percent level. The differences between boys and girls in Groups B and C were not significant.

Table XXVIII shows the comparison of the mean scores of the boys and girls in the three groups on the Stanford Spelling test in April with mental age controlled

TABLE XXVIII

April Comparison of Mean Scores of Boys and Girls on Stanford Spelling

Group	Sex	No.	Mean	Adj Mean	F
A	Boys	104	11.08	11.19	.65
	Girls	105	11.94	11.82	
B	Boys	101	10.20	10.42	.90
	Girls	104	11.38	11.13	
C	Boys	106	12.59	12.84	8.58**
	Girls	104	15.19	14.89	

**Significant at 1% level

The difference between the scores of the boys and girls in Group C was significant at the 1 percent level, favoring the girls. The differences between the scores of the boys and girls in Groups A and B were not significant.

Table XXIX shows the comparison of the mean scores of the boys and girls in the three groups on the Stanford Word Study Skills test in April with mental age controlled.

TABLE XXIX

April Comparison of Mean Scores of Boys and Girls Stanford Word Study Skills

Group	Sex	No.	Mean	Adj. Mean	F
A	Boys	104	35.52	35.79	3.00
	Girls	105	38.41	38.11	
B	Boys	101	37.42	37.91	.25
	Girls	104	39.11	38.55	
C	Boys	106	39.95	40.48	6.11*
	Girls	104	43.94	43.32	

* Significant at 5% level

A 5 percent difference, favoring the girls in Group C, was the only signigicant difference.

Table XXX shows the comparison of mean scores of the boys and girls of the three groups on the Homophone Test in May, with mental age controlled.

TABLE XXX

Comparison of Mean Scores of Boys and Girls on Homophone Test--May

Group	Sex	No.	Mean	Adj. Mean	F
A	Boys	104	39.60	39.72	.003
	Girls	97	39.76	39.63	
B	Boys	124	38.64	38.93	.18
	Girls	108	38.59	38.26	
C	Boys	145	45.12	45.70	.03
	Girls	123	46.73	46.05	

There were no significant differences between the scores of the boys and girls in any group on the Homophone Test.

Table XXXI shows the comparison of the scores of the boys and girls of the three groups on the Homonym Spelling Test in May, with mental age controlled.

TABLE XXXI

Comparison of Mean Scores of Boys and Girls on Homonym Spelling--May

Group	Sex	No.	Mean	Adj. Mean	F
A	Boys	104	2.82	2.85	1.08
	Girls	97	3.43	3.40	
B	Boys	124	2.27	2.33	2.02
	Girls	108	3.01	2.94	
C	Boys	145	4.21	4.45	8.75**
	Girls	123	6.54	6.27	

**Significant at 1% level.

The only significant difference in Group C at the 1 percent level, favoring the girls.

Relationships of Word Perception Skills and Achievement

Table XXXII shows the relationship of the scores on the January tests of word perception and the January achievement tests for 725 children.

TABLE XXXII

Relation of Word Perception Abilities and Reading Achievement--January

Factor	Scott-Foresman Vocabulary	Board Words	Card Words	Total Reading
Capital Letters Identification	.51	.30	.28	.38
Lower-case " "	.59	.35	.33	.44
Sounds in Isolation	.70	.49	.48	.59
Sounds in Words	.70	.52	.51	.62
Phonograms	.69	.57	.57	.66
Naming Capital Letters	.59	.36	.34	.45
Naming Lower-case "	.65	.42	.40	.52
Naming Sounds	.63	.47	.56	.56
Spplied Phonics	.66	.54	.53	.63
Mental Age	.67	.44	.53	.56

The correlations were all positive. The individual tests of letter knowledge, a more difficult task than the test of recognition, were higher than the group tests. The different measures of recognition of sounds, group and individual, were in general the highest ones. The group measures--sounds in isolation, in words and phonograms--correlated .70, .70, .69, respectively with Scott-Foresman Vocabulary: .49, .52, .57; with Board Words: .48, .51, .57; with Card Words: .59, .62, .66, with the total reading.

Table XXXIII shows the relationship of the scores on the April tests of Word Perception and the Stanford Achievement tests for 587 children.

TABLE XXXIII

Relation of Word Perception Scores and Stanford Achievement--April

Factor	Word Meaning	Paragraph Meaning	Vocabulary	Spelling	Word skills
Capital Letters Identified	.30	.33	.28	.35	.43
Lower-case Letters Identified	.43	.43	.36	.44	.51
Sounds in Isolation	.51	.52	.50	.60	.68
Sounds in Words	.56	.56	.51	.62	.70
Phonograms	.62	.64	.57	.68	.75

Many of the children had reached the ceiling on some of the word perception tests, yet the correlations remained positive and fairly high. The tests of Sounds in Isolation, Sounds in Words and Phonograms were .60 or higher, with Spelling and Word Study Skills, and .50 or higher with Word Meaning, Paragraph Meaning and Vocabulary.

In order to get a more precise understanding of the effect of knowledge of letter names and sounds on the child's ability to acquire a sight vocabulary the scores on the November Tests of Sounds in Isolation, Sounds in Words and Phonograms were divided into quarters. The tests of Identification of Capital and Lower-case letters were omitted as 68 percent of the children had perfect scores on these tests in November. The children were divided into four groups based on their test scores. To be included in a group the child must have had a score in that particular quarter in all of the three measures. The relationship of the November tests with the achievement tests in January and April was accomplished by a covariance analysis with mental age controlled.

Table XXXIV shows the mean scores on the January achievement tests of the children in each quarter of the scores on the word element perception tests in November with mental age controlled by the covariance analysis.

TABLE XXXIV

November Scores on Word Perception Elements & January Achievement
Mental Age Controlled

Test	Q	No.	Mean	Adj.Mean	F.
Detroit	4	100	20.66	19.27	47.85**
	3	49	11.96	10.93	
	2	46	10.26	10.79	
	1	98	5.38	7.06	
Scott-Foresman Vocabulary	4	100	102.26	96.78	55.00**
	3	49	83.90	79.86	
	2	46	74.48	76.58	
	1	98	44.09	50.72	
Board Words	4	100	95.33	87.09	37.87**
	3	49	55.31	49.23	
	2	46	36.61	39.77	
	1	98	16.92	26.88	
Card Words	4	100	104.35	96.65	52.27**
	3	49	55.57	49.89	
	2	46	37.91	40.87	
	1	98	15.49	24.80	
Total Reading	4	100	301.84	280.40	59.71**
	3	49	196.82	181.00	
	2	46	149.22	157.44	
	1	98	72.62	103.55	

**Significant at the 1% level

On all of the tests there were significant differences favoring the children with the high scores on the word element perception tests.

Table XXXV shows the mean scores on the April achievement tests of the children in each quarter of the scores on the word element perception tests in November, with the mental age controlled by the covariance analysis.

TABLE XXXV

November and April Scores-M.A. Controlled

Test	Q	No.	Mean	Adj.Mean	F
Word Meaning	4	102	29.33	28.00	27.40**
	3	52	25.35	24.35	
	2	47	22.00	22.47	
	1	104	16.57	18.15	
Paragraph Meaning	4	102	31.14	29.13	34.78**
	3	52	24.42	22.92	
	2	47	21.21	21.92	
	1	104	14.08	16.48	
Vocabulary	4	102	28.58	27.36	27.10**
	3	52	24.87	23.95	
	2	47	22.28	22.71	
	1	104	17.03	18.41	
Spelling	4	102	17.60	17.13	64.41**
	3	52	13.56	13.20	
	2	47	11.19	11.36	
	1	104	5.60	6.16	
Word Study Skills	4	102	49.10	47.56	62.92**
	3	52	42.48	41.33	
	2	47	38.32	38.86	
	1	104	26.26	28.10	

**Significant at 1% level.

There were significant differences on all of the tests, favoring the children with the high scores on the word element perception tests.

Analysis of Writing Samples

Each writing sample required a 20-minute lesson presented by the classroom teachers. The only direction for the first sample was "Write me a story". Encouragement could be given to keep a child writing, but nothing further was done. The second sample was the result of a lesson in creative writing, following the procedure regularly employed by the teacher. The directions for obtaining the samples were given by the Coordinating Center, as were the directions for scoring. It was not feasible to ask a teacher to repeat the process for children who had been absent, so the number of children in the groups varies somewhat from the numbers in the other analyses.

The mechanics ratio as used was favorable to a child who wrote little. One sentence with a capital at the beginning and period at the end would score 100 percent, while a child who wrote a real story would be penalized for any omission of punctuation or capitalization. The first analysis compares the scores of the three groups on the two samples and the second analysis compares each group's achievement on the two approaches. Table XXXVI shows the comparisons of the mean number of words in Writing Sample I, for the three groups.

TABLE XXXVI

Comparison of Mean Number of Running Words, Sample I

Group	No.	Mean	S.D.	S.E.	Diff.	SE Diff	C.R.
A	210	23.55	12.75	.88	4.15	1.42	2.91
C	244	27.70	17.65	1.12			
B	241	25.10	16.00	1.03	2.60	1.52	1.71
C	244	27.70	17.65	1.12			
A	210	23.55	12.75	.88	1.55	1.35	1.15
B	241	25.10	16.00	1.03			

The difference of 4.15 words between Groups A and C was statistically significant, favoring Group C. Neither of the differences between Groups B and C, nor A and B were significant--The slight differences favored C over B, and B over A.

Table XXXVII shows the comparisons of mean number of running words for the three groups on Writing Sample II.

TABLE XXXVII

Comparison of Mean Number of Running Words, Sample II

Group	No.	Mean	S.D.	S.E.	Diff	S.E.Diff	C.R.
A	207	23.45	10.80	.75	6.40	1.34	4.78
C	241	29.85	17.45	1.12			
B	235	24.70	16.00	1.04	5.15	1.52	3.38
C	241	29.85	17.45	1.12			
A	207	23.45	10.80	.75	1.25	1.35	.92
B	235	24.70	16.00	1.12			

The differences of 6.40 words and 5.15 words between Groups A and C, and B and C, were both statistically significant, favoring Group C. The difference between Groups A and B was not significant; the slight difference favored Group B.

Table XXXVIII shows the comparisons of the mean number of words spelled correctly by the three groups on Writing Sample I.

TABLE XXXVIII

Comparison of Mean Number of Words Spelled Correctly, Writing Sample I

Group	No.	Mean	S.D.	S.E.	Diff	S.E.Diff	C.R.
A	210	19.85	12.25	.84	2.15	1.21	1.77
C	244	22.00	13.90	.88			
B	241	20.05	13.55	.91	1.95	1.25	1.56
C	244	22.00	13.90	.87			
A	210	19.85	12.25	.84	.20	1.23	.16
B	241	20.05	13.55	.91			

None of the differences between the groups were significant. The differences between A and C, and B and C, both favored Group C.

Table XXXIX shows the comparisons of the mean number of words spelled correctly by the three groups on Writing Sample II

TABLE XXXIX

Comparison of Mean Number of Words Spelled Correctly, Writing Sample II

Group	No.	Mean	S.D.	S.E.	Diff.	S.E.$_{Diff}$	C.R.
A	207	18.85	10.50	.72	6.80	1.19	5.71
C	241	25.65	14.45	.95			
B	235	19.70	13.75	.88	5.95	1.29	4.61
C	241	25.65	14.45	.95			
A	207	18.85	10.50	.72	.85	1.13	.75
B	235	19.70	13.75	.88			

The differences of 6.8 words and 5.95 words between Groups A and C, and B and C, were both statistically significant, favoring Group C. The difference of .85 words between A and B, was not significant.

Table XL shows the comparisons of mean scores on the mechanics ratio for the three groups on Writing Sample I.

TABLE XL

Comparison of Means on Mechanics Ratio, Writing Sample I

Group	No.	Mean	S.D.	S.E.	Diff.	S.E. Diff.	C.R.
A	210	61.70	22.20	1.53	2.00	2.12	.99
B	241	59.70	23.00	1.48			
A	210	61.70	22.20	1.53	9.65	2.29	4.25
C	244	52.05	26.85	1.71			
B	241	59.70	23.00	1.48	7.65	2.26	3.39
C	244	52.05	26.85	1.71			

The difference of two points between A and B, was not significant. The differences of 9.65 points between Groups A and C, and 7.65 points between B and C, were both significant, favoring Groups A and B respectively.

Table XLI shows the comparisons of mean scores on the mechanics ratio for the ghree groups on Writing Sample II

TABLE XLI

Comparison of Means on Mechanics Ratio, Writing Sample II.

Group	No.	Mean	S.D.	S.E.	Diff.	S.E. Diff.	C.R.
A	207	63.40	23.45	1.70	.55	2.26	.19
B	235	63.95	23.05	1.50			
A	207	63.40	23.45	1.70	10.40	2.04	5.09
C	241	53.00	22.35	1.43			
B	235	63.95	23.05	1.50	10.95	2.07	5.29
C	241	53.00	22.35	1.43			

The difference between Groups A and B, was not significant. The differences of 10.40 between Groups A and C, and 10.95 between B and C, were both significant, favoring Groups A and B respectively.

Table XLII shows the comparisons of the mean number of running words for each group on Writing Samples I and II.

TABLE XLII

Comparisons of Mean Number of Running Words, Writing Samples I & II

Group	No.	Sample	Mean	S.D.	S.E.	Diff	S.E. Diff	C.R.
A	210	I	23.55	12.75	.88	.10	1.15	.08
A	207	II	23.45	10.80	.75			
B	241	I	25.10	16.00	1.03	.40	1.45	.27
B	235	II	24.70	16.00	1.04			
C	244	I	27.70	17.65	1.12	2.15	1.22	1.76
C	241	II	29.85	17.45	1.12			

None of the differences between the number of running words in Writing Samples I and II were significant. The slight difference in Groups A and B, favored Writing Sample I, and Group C, Writing Sample II.

Table XLIII shows the comparisons of the mean number of words spelled correctly for the three groups on Writing Samples I and II

TABLE XLIII

Comparison of Mean Number of Words Spelled Correctly in Writing Samples I & II

Group	No.	Sample	Mean	S.D.	S.E.	Diff	S.E. Diff.	C.R.
A	210	I	19.85	12.25	.84	1.00	1.10	.90
A	207	II	18.85	10.50	.72			
B	241	I	20.05	13.55	.91	.35	1.26	.27
B	235	II	19.70	13.75	.88			
C	244	I	22.00	13.90	.88	3.65	1.29	2.82
C	241	II	25.65	14.45	.95			

The differences between the means for Groups A and B, were not significant. The slight differences in both cases favored Writing Sample I. The difference between the means for Group C was significant favoring Writing Sample II.

Table XLIV shows the comparisons of the mean mechanic ratios for each group on Writing Samples I and II.

TABLE XLIV

Comparison of Mean Mechanic Ratio on Writing Samples I and II

Group	No.	Sample	Mean	S.D.	S.E.	Diff.	S.E. Diff	C.R.
A	210	I	61.70	22.20	1.53	1.70	2.28	.78
A	207	II	63.40	23.45	1.70			
B	241	I	59.70	23.00	1.48	4.25	2.10	2.02
B	235	II	63.95	23.05	1.50			
C	244	I	52.05	26.85	1.71	.95	2.22	.42
C	241	II	53.00	22.35	1.43			

The differences in the mean mechanic ratios were very slight between the two samples for Groups A and C, with the small difference favoring Sample II in both instances. The difference between the mean mechanic ratios for Group B were approaching significance, and again this favored Writing Sample II.

Findings

1. The trend analysis of the growth patterns of word element perception showed steady growth for all groups from one measuring period to the next. The quadratic slopes showed more progress for Groups B and C in November and January. The scores of all groups levelled off in May as the ceilings of the tests were reached.

2. Group C had the highest achievement on the January Vocabulary tests. The mean scores on the Board Words, Card Words and Total Reading were significant at the 1 percent level in favor of Group C. Group B was ahead of Groups A and C on the Scott-Foresman Vocabulary. The difference between the means on this test was significant at the 5 percent level. There were no significant differences between the mean scores on the Detroit Word Recognition test.

3. Group C was superior on the tests of Vocabulary, Spelling and Word Study Skills of the Stanford Achievement Test in April. Group B was superior on the tests of Word Meaning and Paragraph Meaning. All of these differences were significant at the 1 percent level.

4. There were differences between the mean scores of the boys and girls on all of the January measures, all of the differences favoring the girls. These differences were significant in Groups B and C on the Detroit Word Recognition test and in Group C on the Scott-Foresman Vocabulary.

5. There were significant differences between the mean scores of the boys and girls on the Stanford Achievement tests in April, all favoring the girls. The difference on Word Meaning was significant in Group B, the differences on Paragraph Meaning were significant in Groups B and C. The differences in Vocabulary was significant in Group A, the differences in Spelling and Word Study Skills were significant in Group C.

6. The relationship of scores on the tests of Word Element Perception and Achievement in January and in April were all positive and fairly high.

7. When the scores on the November tests of Word Perception Elements were divided into quarters and mental age was held constant by an analysis of covariance, the relationship between these scores and achievement in January and April was very high indeed. The influence of the perceptual skills was much higher than that of intelligence.

8. The children in Group C wrote longer compositions and spelled more words correctly in them than the children in either Group A or B. The children in Groups A and B were superior to the children in Group C on the mechanics ratio score. All of these differences were significant.

Conclusions:

1. Early intensive teaching of the speech-based phonic program increased first grade achievement in reading and spelling.

2. Growth in sight vocabulary in beginning reading is related to word element perception.

3. Girls' achievement in Spelling and Reading in grade one is in general higher than that of the boys.

4. Emphasis in writing practice results in more writing and better spelling in children's compositions.

Implications

The data from this study would indicate that a first grade teacher should determine very early each child's knowledge of the names of capital and lower-case letters, as well as his ability to identify the separate phonemes in spoken words. An intensive program to teach these abilities should be provided for any child who does not know the letter names, or who cannot hear separate sounds in speech. The reasons for starting with the letter names are:

1. they are easier to learn than are the sounds,
2. many children know some of them, and
3 most letter names contain one sound of the letter so that the child has a good start in phonics as soon as he knows the letter and can attach the sound to it.

Inventory often so that necessary instruction may be provided for any child needing it. Special attention should be paid to the program for the boys. A whole word phonic attack with the meaning kept high enables a child to acquire rapidly a sight vocabulary. Many children could read in January more words that they had picked up incidently from the phonic lessons than they had been taught in the formal reading lessons.

BIBLIOGRAPHY

Allen, Ruth J., et al., "The Relationship of Readiness Factors to January First Grade Reading Achievement", Unpublished Master's Thesis, Boston University School of Education, Boston, 1959.

Arkin, Susan B., et al., "Growth Patterns in First Grade Reading", Unpublished Master's Thesis, Boston University School of Education, Boston, 1964.

Biggy, M. Virginia, "The Establishment of a Relative Order of Difficulty of Word Elements in Auditory Discrimination", Unpublished Master's Thesis, Boston University School of Education, Boston, 1946.

Bloomfield, Leonard and Burnhart, Clarence L., Let's Read, A Linguistic Approach, Wayne State University Press, Detroit, 1961.

Bresnahan, M. Marie, "An Evaluation of Recordings for Teaching Auditory Discrimination of Word Elements for Beginning Reading", Unpublished Doctoral Dissertation, Boston University School of Education, Boston, 1952.

Cavoures, Dorothy G., "Phoneme Identification in Primary Reading and Spelling," Unpublished Doctoral Dissertation, Boston University School of Education, Boston, 1964.

Crossley, B. Alice, "An Evaluation of the Effect of Lantern Slides on Auditory and Visual Discrimination of Word Elements," Unpublished Doctoral Dissertation, Boston University School of Education, Boston, 1952.

Durrell, Donald D. and Murphy, Helen A., "Boston University Research in Elementary School Reading: 1933-1963", Journal of Education 146: 1-153, December 1963.

Fagg, Dorothy W., " A Study of the Relationship Between Auditory Analysis and Growth of Language Arts Skills", Unpublished Master's Thesis, Boston University School of Education, Boston, 1942.

Fries, Charles C., Linguistics and Reading, Holt, Rinehart and Winston, New York 1963.

Gavel, Sylvia Ruth, "June Reading Achievements of First Grade Children", Journal of Education, Vol. 140: Pp. 37-48, February 1958.

Gogolewski, Jean I., "auditory Perception of Word Elements in Beginning Reading Through Visual and Kinesthetic Speech Clues", Unpublished Doctoral Dissertation, Boston University School of Education, Boston, 1955.

Hudak, Elizabeth and Wentzel, Margaret, "The Effect of Knowledge of Letter Names on Beginning Reading", Unpublished Master's Thesis, Boston University School of Education, Boston, 1955.

Junkins, Kathryn M., "The Construction and Evaluation of Exercises for Developing Visual Discrimination in Beginning Reading", Unpublished Master's Thesis, Boston University School of Education, Boston, 1940.

Kelley, Helen I., "Relative Difficulty of Auditory Perception of Word Elements", Unpublished Master's Thesis, Boston University School of Education, Boston, 1948.

Linehan, Eleanor B., "Early Instruction in Letter Names and Sounds as related to Success in Beginning Reading", Unpublished Doctoral Dissertation, Boston University School of Education, Boston, 1957.

Maskell, Eleanor I., et al., "The Construction and Evaluation of Group Auditory Test of Word Analysis for Grade One", Unpublished Master's Thesis, Boston University School of Education, Boston, 1950.

McFarland, Mary E., "The Relationship of Readiness Factors to Success in Beginning Reading", Unpublished Master's Thesis, Boston University School of Education, Boston, 1953.

Murphy, Helen A., "An Evaluation of Exercises for Developing Auditory and Visual Discrimination on Beginning Reading", Unpublished Master's Thesis, Boston University School of Education, Boston, 1940.

Murphy, Helen A., "An Evaluation of the Effect of Specific Training in Auditory and Visual Discrimination on Beginning Reading", Unpublished Doctoral Dissertation, Boston University School of Education, Boston, 1943.

Nicholson, Alice, "Background Abilities Related to Reading Success in First Grade", Journal of Education, Vol. 140: P;. 7-21, February,1958.

Olson, Arthur V., "Growth in Word Perception Abilities as it Relates to Success in Beginning Reading", Journal of Education, Vol. 140: Pp. 25-36, February 1958.

Russell, David H., "research on Teaching Reading", in Handbook of Research Teaching, Rand McNally & Co., Chicago, 1963.

Santeusanio, Nancy C., "Evaluation of a Planned Program for Teaching Homophones in Beginning Reading", Unpublished Doctoral Dissertation, Boston University School of Education, Boston, 1962.

Smith, Nila B., Reading Instruction for Today's Children, Prentice-Hall, Englewood Cliffs, New Jersey, 1963.

Tufts, Betty Raymond, "An evaluation of Several Types of Auditory Discrimination Tests for Kindergarten and First Grade", Unpublished Master's Thesis, Boston University School of Education, Boston, 1941.

APPENDIX

76. Key

Name ______________________ School ______________________

Date ______________________

Circle the letter.

1. E F [✓ A] Y L
2. H C D [✓ O] T
3. F J [✓ X] R Z
4. I H E [✓ L] F
5. B E R [✓ F] A
6. [✓ N] I Z B L
7. U B O F [✓ P]
8. E N [✓ S] O C
9. F [✓ I] J Y L
10. B [✓ R] X E P
11. U S O Z [✓ C]
12. W P F V [✓ T]
13. [✓ B] P S C D
14. [✓ D] C G T B
15. O D C Y [✓ G]
16. B L [✓ H] V L
17. N O M K [✓ E]
18. U P [✓ J] X L
19. A [✓ Y] C T V
20. L [✓ W] F N M
21. [✓ M] T W E F
22. B L V T [✓ K]
23. [✓ Z] G N K F
24. Y K T L [✓ V]
25. J M [✓ U] G N
26. T X C [✓ Q] G

Circle the letter

1. o [✓ s] y b m
2. r a f m [✓ e]
3. s m o [✓ x] z
4. g p q h [✓ y]
5. [✓ k] t f l h
6. k l [✓ h] f t
7. m f s [✓ z] c
8. [✓ l] t b k h
9. o [✓ a] e c g
10. a r e o [✓ c]
11. n u [✓ w] r m
12. k i g [✓ t] y
13. [✓ m] v u c h
14. d [✓ b] g p q
15. g b d q [✓ p]
16. b d p [✓ q] g
17. q p [✓ d] g b
18. [✓ r] m n u o
19. o a e [✓ g] c
20. h [✓ f] l t k
21. t e j l [✓ i]
22. g p y [✓ j] i
23. m [✓ n] u d b
24. [✓ u] n v w m
25. c d a e [✓ o]
26. w y [✓ v] n u

Sounds in isolation

1. m p y [✓ s] l
2. [✓ c] t f n h
3. g z [✓ t] w l
4. n o s c [✓ p]
5. x [✓ m] r s f
6. o [✓ b] x r s
7. [✓ f] l d n c
8. b f r [✓ h] l
9. w [✓ l] g n c
10. c n h v [✓ d]
11. b [✓ r] f p t
12. [✓ g] m b s t
13. f n s [✓ w] r
14. f [✓ n] m l c
15. b t [✓ k] r j
16. [✓ j] y h d r
17. x k v l [✓ y]
18. p s g [✓ v] f
19. b m d r [✓ g]
20. [✓ q] s p j y
21. n q [✓ c] h t
22. sm br [✓ sh] sw ch
23. th sc fr [✓ ch] cl
24. [✓ wh] sw pr sh cl
25. pl [✓ th] st wh gr
26. sh ch fr sw [✓ sc]
27. [✓ sl] sn br bl fr
28. [✓ br] sk cl sn sl

29. sh [✓ sm] th pr ch

30. fl th sl br [✓ fr]

31. st pl [✓ sp] dr cl

32. th wh sn [✓ st] br

33. [✓ gr] sp ch fl fr

34. [✓ fl] fr th cl sl

35. [✓ sk] ch sm sl pr

36. bl sw gr [✓ pr] sh

37. sc [✓ bl] br sh st

38. fr st fr sc [✓ sn]

39. fr st [✓ dr] pl cl

40. pr [✓ pl] th sm sp

41. sh gr sc [✓ sw] cl

42. [✓ cl] dr br ch sk

Circle the first sound in

1.	[✓ c] f p h w	cat	15.	p l [✓ s] d q	sir
2.	d f [✓ p] s c	pillow	16.	a q e h [✓ t]	tell
3.	b r t [✓ j] a	jump	17.	wh sl dr [✓ sh] tr	ship
4.	n s r d [✓ v]	very	18.	[✓ sp] dr ch sw th	space
5.	[✓ b] g p m w	bat	19.	m [✓ r] p b h	race
6.	b [✓ l] s m k	let	20.	ch br [✓ sl] gr pl	slip
7.	c w r [✓ n] f	nurse	21.	fl gr th sn [✓ bl]	black
8.	d m [✓ y] h w	young	22.	[✓ sn] cl wh tr sp	sneak
9.	t k h f [✓ m]	mat	23.	sk br [✓ tr] bl fr	traffic
10.	t h l [✓ g] m	George	24.	b c w [✓ d] t	dime
11.	p [✓ c] r g u	city	25.	pl [✓ cl] br th ch	clown
12.	c [✓ g] b f h	gas	26.	sk dr wh fl [✓ st]	star
13.	s r [✓ f] c b	farm	27.	gr sw [✓ pl] sn fr	play
14.	b r t s [✓ q]	quiz	28.	sw [✓ fr] ch fl br	Frank

Circle the first sound in	Circle the last sound in
29. r d p [✓ w] t wind	44. r g l [✓ m] t gum
30. bl st wh dr [✓ sk] ski	45. [✓ g] t a p c tag
31. [✓ ch] sl th cl fl chick	46. sl tr cl sm [✓ ch] watch
32. st gr bl [✓ br] sm breeze	47. b l e t [✓ d] red
33. ch [✓ fl] th fr pl flesh	48. a r [✓ s] m o cars
34. wh sr sm bl [✓ th] thing	49. l [✓ y] a h p baby
35. sm dr [✓ sc] pl th scare	50. [✓ n] r o v e bun
36. sp fr bl th [✓ sm] smart	51. h l b [✓ t] f it
37. sp th sn [✓ wh] gr white	52. b s [✓ r] a l here
38. tr cl [✓ sw] sm ch switch	53. l [✓ k] t v s book
39. pl [✓ gr] sc ch dr greet	54. s o [✓ p] e b shop
40. [✓ dr] bl ch th sl drug	55. [✓ b] u d a l scrub
41. s g l w [✓ h] hose	56. e f [✓ l] m t till
42. [✓ k] m b l f kite	57. h o l [✓ f] c puff
43. Circle the last sound in wh [✓ sh] gr sc pl bush	

Circle the letters which say -

1. ip as in trip

eg ad [✓ ip] up

2. ack as in Jack

old [✓ ack] ush ich

3. ess as in guess

iff oes ade [✓ ess]

4. elt as in knelt

[✓ elt] ice oft are

5. out as in pout

art ead ick [✓ out]

6. ane as in Jane

eam ust [✓ ane] oam

7. ipe as in stripe

[✓ ipe] ept oze age

8. ell as in tell

afe ine ock [✓ ell]

9. un as in run

ew ay [✓ un] in

10. ound as in ground

[✓ ound] arsh igh each

11. uck as in duck

ift eaf [✓ uck] ock

12. ot as in lot

ag [✓ ot] ip ub

13. ight as in might

ept [✓ ight] igh each

14. air as in chair

eer [✓ air] ove ich

15. eat as in treat

[✓ eat] ate owd ite

16. ap as in snap

eg ub og [✓ ap]

17. ib as in crib

im up [✓ ib] ay

18. ain as in brain

eam ove [✓ ain] urn

19. own as in drown

[✓ own] arm ide ean

20. ang as in bang

iff ump ope [✓ ang]

21. ug as in tug

[✓ ug] op at in

22. est as in pest

eef ast [✓ est] ole

23. it as in fit

ub [✓ it] od eg

24. ore as in more

are eer [✓ ore] iss

25. et as in let

ub ip eg [✓ et]

26. ave as in wave

ew [✓ ave] ome ine

27. ept as in wept

oft ump ake [✓ ept]

28. ow as in snow

[✓ ow] ea uy ax

29. are as in glare

ice urn oes [✓ are]

30. ite as in trite

ist [✓ ite] eft obe

31. ee as in three

um [✓ ee] it an

32. ed as in Ned

ab ix [✓ ed] up

Circle the letters that say

1. ook eep [✓ ake] ide in flake
2. [✓ est] ich oaf ame in pest
3. un [✓ id] eg an in slid
4. own ush [✓ ang] ike in hang
5. [✓ uff] eak ide ark in puff
6. ix ot et [✓ ad] in sad
7. [✓ op] ay un ar in cop
8. ill [✓ eat] ook and in treat
9. ide [✓ oad] eel ump in toad
10. ot [✓ et] ip ah in pet
11. ix at [✓ ew] op in new
12. [✓ un] et ay ow in run
13. old ark ike [✓ eek] in
14. est ide ush [✓ oke] in broke
15. an et [✓ im] op in swim
16. [✓ ook] eep all ill in brook
17. [✓ eed] uch ake ool in speed
18. op [✓ ut] ad it in but
19. ail eam [✓ ine] own in mine
20. all [✓ ead] oke ide in plead
21. et ig [✓ ay] un in play
22. ot en at [✓ ip] in trip
23. ade [✓ ell] old iff in tell
24. [✓ ap] um ib ot in cap
25. oke eat ark [✓ ill] in till
26. urn oar [✓ ain] eet in brain
27. op an et [✓ ow] in snow
28. [✓ eep] ich ook and in sheep
29. old ent [✓ ump] ake in hump
30. [✓ ish] est ool ail in swish
31. est ide eel [✓ ash] in cash
32. ay [✓ ug] in ot in tug

33. ash as in splash
igh owd eaf [✓ ash]

34. eal as in deal
ook uch ive [✓ eal]

35. id as in slid
eg [✓ id] ub ot

36. op as in drop
an ag [✓ op] uy

37. eet as in greet
oad ide [✓ eet] ump

38. ut as in but
[✓ ut] ed ar ob

39. ill as in till
eed ail ick [✓ ill]

40. ank as in Frank
ich [✓ ank] end oaf

41. eeze as in wheeze
[✓ eeze] oast ight arch

42. ool as in fool
uff all [✓ ool] eef

43. ar as in star
uy [✓ ar] et oe

44. ick as in brick
[✓ ick] ark end uch

45. oke as in broke
ook eck [✓ oke] afe

46. ent as in dent
ost ump ate [✓ ent]

47. ame as in game
ean [✓ ame] ike oam

48. at as in fat
[✓ at] ub in ot

49. ing as in bring
[✓ ing] ent own ump

50. ail as in Gail
ool ush [✓ ail] eal

51. eep as in beep
amp [✓ eep] ose ust

52. ud as in cud
ed og [✓ ud] ib

53. ear as in dear
[✓ ear] afe urn old

54. acks as in packs
ice each oud [✓ acks]

55. end as in lend
oaf uch afe [✓ end]

56. ows as in shows
are [✓ ows] oar eam

57. ast as in cast
eat [✓ ast] oud ush

58. ole as in sole
[✓ ole] uff ale ell

59. ile as in while
elt ail oaf [✓ ile]

60. ose as in chose
ace ere [✓ ose] iss

61. eck as in peck
uch ake ite [✓ eck]

62. amp as in ramp
eep [✓ amp] ome urn

63. eam as in cream
ain urn [✓ eam] own

64. ale as in tale
[✓ ale] oke ide ept

PHONOGRAMS (Say only phonogram. Word is listed for esaminer's pronunciation.)
Circle the letters which say -

1.	eg	ad	[✓ ip]	up	flip	17.	im	up	[✓ ib]	ay	rib
2.	old	[✓ ack]	ush	ich	back	18.	eam	ove	[✓ ain]	urn	rain
3.	iff	oes	ade	[✓ ess]	dress	19.	[✓ own]	arm	ide	ean	down
4.	[✓ elt]	ice	oft	are	melt	20.	iff	ump	ope	[✓ ang]	sang
5.	art	ead	ick	[✓ out]	out	21.	[✓ ug]	op	at	in	bug
6.	eam	ust	[✓ ane]	oam	cane	22.	eef	ast	[✓ est]	ole	nest
7.	[✓ ipe]	ept	oze	age	ripe	23.	ub	[✓ it]	od	eg	it
8.	afe	ine	ock	[✓ ell]	tell	24.	are	eer	[✓ ore]	ise	more
9.	ew	ay	[✓ un]	in	run	25.	ub	ip	eg	[✓ et]	net
10.	[✓ ound]	arsh	igh	each	round	26.	ew	[✓ ave]	ome	ine	gave
11.	ift	eaf	[✓ uck]	ock	duck	27.	oft	ump	ake	[✓ ept]	kept
12.	ag	[✓ ot]	ip	ub	not	28	[✓ ow]	ea	uy	ax	grow
13.	ept	[✓ ight]	igh	each	light	29.	ice	urn	oes	[✓ are]	bare
14.	eer	[✓ air]	ove	ich	hair	30.	ist	[✓ ite]	eft	obe	bite
15.	[✓ eat]	ate	owd	ite	eat	31.	um	[✓ ee]	it	an	see
16.	eg	ub	og	[✓ ap]	tap	32.	ab	ix	[✓ ed]	up	fed

33.	igh	owd	eaf	[✓ ash]	dash		49.	[✓ ing]	ent	own	ump	sing
34.	ook	uch	ive	[✓ eal]	real		50.	ool	ush	[✓ ail]	eal	mail
35.	eg	[✓ id]	ub	ot	did		51.	amp	[✓ eep]	ose	ust	peep
36.	an	ag	[✓ op]	uy	hop		52.	ed	og	[✓ ud]	ib	bud
37.	oad	ide	[✓ eet]	ump	feet		53.	[✓ ear]	afe	urn	old	hear
38.	[✓ ut]	ed	ar	ob	but		54.	ice	each	oud	[✓ acks]	tacks
39.	eed	ail	ick	[✓ ill]	will		55.	oaf	uch	afe	[✓ end]	send
40.	ich	[✓ ank]	end	oaf	thank		56.	are	[✓ ows]	oar	eam	cows
41.	[✓ eeze]	oast	ight	arch	breeze		57.	eat	[✓ ast]	oud	ush	fast
42.	uff	all	[✓ ool]	eef	cool		58.	[✓ ole]	uff	ale	ell	hole
43.	uy	[✓ ar]	et	oe	far		59.	elt	ail	oaf	[✓ ile]	mile
44.	[✓ ick]	ark	end	uch	Dick		60.	ace	ere	[✓ ose]	iss	rose
45.	ook	eck	[✓ oke]	afe	woke		61.	uch	ake	ite	[✓ eck]	peck
46.	ost	ump	ete	[✓ ent]	went		62.	eep	[✓ amp]	ome	urn	camp
47.	ean	[✓ ame]	ike	oam	came		63.	ain	urn	[✓ eam]	own	beam
48.	[✓ at]	ub	in	ot	fat		64.	[✓ ale]	oke	ide	ept	pale

65.	[✓ eek]	eck	ack	ark	seek
66.	inch	ind	[✓ ime]	ine	time
67.	ear	ine	ign	[✓ ean]	bean
68.	ize	[✓ ive]	ove	ave	five
69.	[✓ ock]	oak	oke	ace	lock
70.	ife	eft	afe	[✓ ift]	lift
71.	ad	ead	[✓ ade]	edge	made
72.	ild	[✓ ide]	id	ube	hide
73.	[✓ ob]	op	ub	ab	rob
74.	age	ick	ign	[✓ igh]	high
75.	[✓ ist]	est	ast	ust	mist
76.	ize	irl	[✓ ire]	ine	fire
77.	und	umb	ung	[✓ ump]	jump
78.	age	[✓ ag]	eg	ig	bag
79.	[✓ ark]	art	arm	ard	dark
80.	ad	[✓ od]	ed	ud	rod
81.	ouch	unch	[✓ atch]	ought	catch
82.	[✓ aw]	ar	ow	ox	saw
83.	ank	int	unk	[✓ ink]	pink
84.	ange	ung	[✓ ong]	ing	song
85.	elt	[✓ alk]	ilk	olt	walk
86.	[✓ oop]	oot	ork	ope	hoop
87.	aint	[✓ aste]	oast	east	paste
88.	ort	out	[✓ oat]	ost	coat
89.	orn	oom	oin	[✓ oon]	soon
90.	[✓ int]	ant	ent	unt	print
91.	arn	oan	[✓ orn]	urn	horn
92.	arch	[✓ unch]	ench	inch	bunch
93.	art	urt	[✓ ort]	ait	sort
94.	[✓ unk]	ank	ink	onk	bunk
95.	art	ort	int	[✓ irt]	skirt
96.	und	[✓ ung]	ang	unt	sung

Record Blank **Individual**

Name________________________ Teacher________________________

Town________________________ School____________Date____________

NAMING CAPITALS - What is the name of this letter?

O X A B S T R N C I P L E

H K M Y D Z W J F U Q G V

NAMING LOWER-CASE - What is the name of this letter?

o x s c i p y k m w z e a

n r t j w u f b h g d l q

SOUNDS - What does this letter say?

s b c t p m f h d r l g w

n k j v y q z a e i o u x

APPLIED PHONICS - This says **bake**, and this says________?

bake - wake ________

told - hold________

cat - fat ________

tail - mail________

teach - reach________

fan - ran ________

top - cop ________

seat - heat ________

match - hatch ________

car - bar ________

fun - run ________

feel - reel ________

hand - land ________

hot - got ________

book - took________

cool - fool ________

ten - den ________

feet - peet ________

ball - call ________

day - say ________

NAMING CAPITALS

O X A B S T R N C I P L E H K M Y D Z

W J F U Q G V

NAMING LOWER CASE

o x s c i p y k m w z e a n r t j w u

f b h g d l q

SOUNDS

s b c t p m f h d r l g w n k j v y q

z a e i o u x

APPLIED PHONICS

bake - wake ________

told - hold ________

cat - fat ________

tail - mail ________

teach - reach ________

fan - ran ________

top - cop ________

seat - heat ________

match - hatch ________

car - bar ________

fun - run ________

feel - reel ________

hand - land ________

hot - got ________

book - took ________

cool - fool ________

ten - den ________

feet - peet ________

ball - call ________

day - say ________

Name______________________________ School____________________________

Scotts-Foresman Words__________

Trip to a Farm

All the family, Mother, Father, Dick, Jane and Sally went for a ride to see something at the farm. They rode in a red car. They saw four animals, a big cow, a duck who said quack, a horse and a baby pig. "I guess we can get pets here", said Sally.

"Yes", said Dad. "We will look at some."

"Hello, this is a funny yellow duch that talks."

They had fun, but soon it was time to go home and they all said, "Good-by".

Pet Rabbits

Tim called to Spot and Puff. "Come, please help me. I cannot find my three pretty little rabbits. They ran away from the house. They like to jump up and hop, and to run, too. Now where do you think they are? Oh, one was out in the barn and two were down by the blue boat."

About a Birthday

What did he want? to have a birthday eat cookies a ball to play with
a happy doll make new toys no work, thank you.

Board Words__________

The Park

Joe and George often rode to the city park on their bikes. Along the way they saw a sign that said School Slow and another which said, Quiet Hospital Zone. At the park there are a lot of things to see and learn about. Trees and flowers grow there. They might have a pony ride or watch a tiny kitten climb a ladder and walk into a basket. They sit on the ground and watch the hungry animals in the cage as the keeper feeds them. The baby tiger drinks milk when he is thirsty. The lion cubs eat bread and cheese and the black owl eats seeds and grass. The snake eats vegetables and leaves. Sometimes they hear the giant ape scream at the crowd and they are scared. A jolly clown waits near the exit where you can buy a balloon for five cents, a kite for a quarter, or a cone for a dime.

Summer Vacation

Do you like a summer vacation? I do. Mother takes Gerald and me to the Cape by bus and we stop at a small hotel. There is a doctor to take care of us if we are sick. We have a key to lock our desk which has crayons, paste, paper and a ruler. I wake very early, hop up, grab my jersey swim suit, and gallop down stairs. I have a spoon and a bowl for my cereal and cream. Later I take a dip in the smooth pool, dig in the wet sand with a shovel, lie on a blanket or towel in the hot sun to get a nice tan on my face, knees and arms. I like to buy a dress, skirt, hat or kerchief in the hotel shop. I don't forget to take my vitamins. My brother likes to count to ten, then throw an old tire or boot into the water and watch the splash and the circles grow, or sit beside a gentle brook and read a book about whales, crabs, frogs, toads and polliwogs. He may play a game or run a race with a friend. When it rains, we see television, sing, write a letter to send, or visit a lady. Guess what we like to do best! Talk with the folks on the telephone.

The Surprise Ride

Jack was in the kitchen eating banana pie. Dad called him to do his share of chores. He must bring the goat and young kid into the pen, fill a box with eggs, and fix the chain on the gate so that the calf can't get out. After this he fed his sleepy dog who licked the dish clean even though his ears got in the way. The dog then lay on a soft yarn mat with nothing to do buy yawn. After noon he heard a noisy boom, gazed over at the steps, then at the road. A bag had fallen from the mail truck. What was in the bag he wondered. With a low slide and a mad leap he was out of the yard and with a neat spin he landed in the bag. Before he could get his nose out, two men in uniform pulled a card tight and pushed the bag into the truck. With a snap the door was shut and the motor began to hum. He felt queer, but he did not wiggle or move. Soon there was a squeak of brakes and the door was open. The chief gave the bag a kick and carried it to the scale. He heard a bark, took a peek in the bag and began to laugh. The dog didn't wait. He was proud of his silly trip and happy the danger was over.

Card Words ________

The Old Man and His Pets

Once there was a kind old man who had many pets. He had a cat who would not mind, a fish who lived in a tall pail, a white crow who spoke, six pale mice, a green bug who could peep, a rat that ate meat, a bee that flew about to dine on a ripe peach, a plain hen with a nest of hay, a mole that could hang by its tail, a pair of lame bear cubs and a brown deer that could chew a nail.

They all lived happily together until one cool day a rich king came down the road wearing his best robe with a band of lace. He wore his crown and said in a clear loud voice: "You and your fine pets are much too gay. This isn't fair or right. I need the pets for my yard."

The cat began to cry, the fish took a quick dive, the crow began to shout and yell. The mice started to fight, the bug bit the kind on his heel. The mole took hold of his toe, the bee tried to sting him on his chin. The hen laid an egg on top of a cake. The cubs beat his hand and his chest and the deer gave him a poke on the cheek. "Why",cried the king, "I do not want pets like these!" He left and the man and his pets had a grand laugh because they had had fun and played a trick on the king.

A Trip to the Lake

Early last week Father took Bill, Jill and me to a lake to catch trout to fry. Mother gave us snacks, a bun and cold coke, which she told us not to spill. When we arrived, it was damp so we went into the camp and made a fire in the stove. The flame was bright gold and gave much heat, so the chill was soon gone. When we were warm, we went for quite a ride in our sail boat. A light breeze began to blow and we went real fast. Father saw a deep, dark pool where fish might hide.

He said, "You must be still and not stand up." He put his line over the side and caught a fish which shook until it was dead. I wanted to try my luck and caught a pike. He was thin so I put him back until he grows bigger. Bill used a hard stick for a rod and a bent pin for a hook. We caught nine fish in all. Then we went in by some rocks to a cave to cook our meal. Bill got a bone stuck in his throat and began to choke, but he was soon well. We played on the beach and found many things: a quill, an old wheel, part of a mast from a steel ship, a bell, a piece of rubber hose and the blade of a knife. I fell on a log and hurt my shin and Bill cut his leg when he fell in a hole. Luckily we had our first aid kit. Dad fished until late and we played in a shack until he was ready to start home. When we got home, I made a dash for bed because I wanted to rest. With a sigh I lay down and was soon sound asleep.

A Fox and a Snail

It was night. One lone cloud high in the sky was hiding a ring round the rim of the moon. A fox decided to go out. He ran past a patch of mud and his feet got caught. He looked for help and saw a little thing that looked like a dot. It was a snail.

"Can you help me?" he asked in a sweet voice.

"I'll get a rope", said the snail.

"Where do you live?"

"My home is near that rose bush. It is not far."

"You are a strange sight with no hair, and your shell in the shape of a dome. Can you roar?"

"No!"

"Can you spell?"

"No, and I don't think you can either."

They both laughed, said "Good night" and stole away through the mist.

Trip to the Farm

All the family, Mother, Father, Dick, Jane and Sally went for a ride to see something at the farm. They rode in a red car. They saw four animals, a big cow, a duck who said quack, a horse and a baby pig.

"I guess we can get pets here," said Sally.

"Yes", said Dad. "We will look at some."

"Hello, this is a funny yellow duck that talks."

They had fun, but soon it was time to go home, and they all said, "Good-by".

Pet Rabbits

Tim called to Spot and Puff. "Come, please help me. I cannot find my three pretty little rabbits. They ran away from the house. They like to jump up, hop, and run, too. Now where do you think they are?

Oh, one is out in the barn and two are down by the blue boat."

About a Birthday

What did he want? To have a birthday eat cookies a ball to play with a happy doll make new toys no work thank you

The Park

Joe and George often rode to the city park on their bikes. Along the way they saw a sign that said School Slow and another which said, Quiet Hospital Zone.

At the park there are a lot of things to see and learn about. Trees and flowers grow there. They might have a pony ride or watch a tiny kitten climb a ladder and walk into a basket. They sit on the ground and watch the hungry animals in the cage as the keeper feeds them. The baby tiger drinks milk when he is thirsty, the lion cubs eat bread and cheese and the black owl eats seeds and grass. The snake eats vegetables and leaves.

Sometimes they hear the giant ape scream at the crowd and they are scared. A jolly clown waits near the exit where you can buy a balloon for five cents, a kite for a quarter, or a cone for a dime.

Summer Vacation

Do you like a summer vacation? I do. Mother takes Gerald and me to the Cape by bus, and we stop at a small hotel. There is a doctor to take care of us if we are sick. We have a key to lock our desk which has crayons, paste, paper and a ruler.

I wake very early, hop up, grab my jersey swim suit, and gallop down stairs. I have a spoon and a bowl for my cereal and cream. Later I take a dip in the smooth pool; dig in the wet sand with a shovel; lie on a blanket or towel in the hot sun to get a nice tan on my face, knees and arms. I like to buy a dress, skirt, hat or kerchief in the hotel shop. I don't forget to take my vitamins.

My brother likes to count to ten, then throw an old tire or boot into the water and watch the splash and the circles grow, or sit beside a gentle brook and read a book about whales, crabs, frogs, toads and polliwogs. He may play a game or run a race with a friend. When it rains we see television, sing, write a letter to send, or visit a lady. Guess what we like to do best? Talk with the folks on the telephone.

The Surprise Ride

Jack was in the kitchen eating banana pie. Dad called him to do his share of chores. He must bring the goat and young kid into the pen, fill a box with eggs and fix the chain on the gate so that the calf can't get out. After this he fed his sleepy dog who licked the dish clean even though his ears got in the way. The dog then lay on a soft, yarn mat with nothing to do but yawn. After noon he heard a noisy boom, gazed over at the steps, then at the road. A bag had fallen from the mail truck. What was in the bag he wondered.

With a low slide, and a mad leap he was out of the yard, and with a neat spin he landed in the bag. Before he could get his nose out, two men in uniform pulled a cord tight and pushed the bag into the truck. With a snap the door was shut and the motor began to hum. He felt queer, but he did not wiggle or move. Soon there was a squeak of brakes and the door was open. The chief gave the bag a kick and carried it to the scale. He heard a bark, took a peek in the bag, and began to laugh. The dog didn't wait. He was proud of his silly trip and happy the danger was over.

The Old Man And His Pets

Once there was a kind old man who had many pets. He had a cat who would not mind, a fish who lived in a tall pail, a white crow who spoke, six pale mice, a green bug who could peep, a rat that ate meat, a bee that flew about to dine on a ripe peach, a plain hen with a nest of hay, a mole that could hang by its tail, a pair of lame bear cubs, and a brown deer that could chew a nail. They all lived happily together until one cool day a rich king came down the road wearing his best robe with a band of lace. He wore his crown and said in a clear, loud voice "You and your fine pets are much too gay. This isn't fair or right. I need the pets for my yard."

The cat began to cry, the fish took a quick dive, the crow began to shout and yell, the mice started to fight, the bug bit the king on his heel, the mole took hold of his toe, the bee tried to sting him on his chin. The hen laid an egg on top of a cake. The cubs beat his hand and his chest, and the deer gave him a poke on the cheek.

"Why" cried the king, "I do not want pets like these!" He left and the man and his pets had a grand laugh because they had had fun and played a trick on the king.

A Trip To The Lake

Early last week Father took Bill, Jill and me to a lake to catch trout to fry. Mother gave us snacks, a bun and cold coke, which she told us not to spill. When we arrived it was damp, so we went into the camp and made a fire in the stove. The flame was bright gold and gave much heat so the chill was soon gone. When we were warm, we went for quite a ride in our sail boat. A light breeze began to blow, and we went real fast. Father saw a deep, dark, pool where fish might hide. He said, "You must be still and not stand up."

He put his line over the side and caught a fish which shook until it was dead. I wanted to try my luck and caught a pike. He was thin so I put him back until he grows bigger. Bill used a hard stick for a rod and a bent pin for a hook. We caught nine fish in all. Then we went in by some rocks to a cave to cook our meal. Bill got a bone stuck in his throat, and began to choke, but he was soon well.

We played on the beach and found many things; a quill, an old wheel, part of a mast from a steel ship, a bell, a piece of rubber hose and the blade of a knife. I fell on a log and hurt my shin and Bill cut his leg when he fell in a hole. Luckily we had our first aid kit. Dad fished until late, and we played in a shack until he was ready to start home. When we got home, I made a dash for bed because I wanted to rest. With a sigh I lay down and was soon sound asleep.

A Fox And A Snail

It was night. One lone cloud high in the sky was hiding a ring round the rim of the moon. A fox decided to get out. He ran past a patch of mud and his feet got caught. He looked for help, and saw a little thing that looked like a dot. It was a snail.

"Can you help me?" he asked in a sweet voice.

"I'll get a rope", said the snail.

"Where do you live"?

"My home is near that rose bush, It is not far."

"You are a strange sight with no hair, and your shell in the shape of a dome. Can you roar?"

"No!"

"Can you spell?"

"No, and I don't think you can either."

They both laughed, said good night, and stole away through the mist.

RECOGNITION OF HOMOPHONES

Directions:

Say, "We are going to play a listening game. We must listen and look carefully. Sometimes letters and groups of letters sound the same even if they do not look the same. We are going to find all of the groups of letters in every box like the sound I say for the box. We will do some together. Find A in the first box. (Illustrate.) Listen, circle each phonogram that has the sound ade. Will you circle a-d-e (name letters)? Yes, made (write on board) has ade. Will you circle e-a-d ? No. Will you circle e-d-e? No. Will you circle a-i-d? Yes, paid (write it) has aid. Look at the next box under B. We will circle all of the groups that say ore in this box. Will you circle o-o-r? Yes, door (write it) has ore. Will we circle o-r-e? Yes, more (write it) has ore. Will we circle o-a-r? Yes, roar (write it) has ore. Will we circle e-a-r? No. Look at the next group under C. We are going to circle ock in this list. Will we circle o-c-k? Yes, block (write) has ock. Will we circle a-c-k? No. Will we circle o-o-k? No. Will we circle a-w-k? Yes, hawk has ock. Notice, sometimes we circle two, sometimes three, sometimes we may circle four or we may even circle only one. I'm not going to help you anymore. Listen and look carefully. "

1. In box 1 circle all the groups that say (d) are.
2. In box 2 circle all the groups that say (k) ite. Continue the same pattern, naming the box number, circle all etc. Do not say the word. This is given so that the examiner will give the correct pronunciation.
3. (b) urn
4. (g) ood
5. (s) een
6. (s) eal
7. (d) ear
8. (l) ate
9. (s) ail
10. (r) ope
11. (r) air
12. (h) er
13. (s) ign
14. (r) ace
15. (r) ed
16. on
17. (k) eep
18. (c) all
19. (b) eet
20. (r) ode
21. (t) ea
22. (n) ot
23. (r) ose
24. (pl) ease
25. (w) oke
26. (s) eam
27. (h) urt
28. (l) one
29. (k) eep
30. (r) un
31. (b) y
32. (f) eel
33. (s) eek
34. (t) oe
35. (n) ame
36. (h) ome

Scoring: Right minus wrong.

NAME______________________________ SCHOOL______________________

A. ade ead ide aid	B. oor ore oar ear	C. ock ack ook awk	
1. are air ere ear	2. it ight eight ite	3. urn oon orn earn	4. od ould ood ad
5. een one ean en	6. oal ole oll owl	7. ear eer ore ere	8. ate eight ait oat
9. ail all ole ale	10. op ope ape oap	11. ain ean ane une	12. ur er ir ar
13. inn ign ince ine	14. ace ice ase ass	15. ode ead ed aid	16. one ane awn on

17. eep eap ep ape	18. oll awl all alm	19. eet elt eft eat	20. ood ode oad odd
21. ea ee ey ac	22. ot ought aught ote	23. ose ows oze oes	24. ece ease eeze ase
25. oak ack ock oke	26. ame eem em eam	27. irt ort ite urt	28. oan own one ean
29. ep eap eep ope	30. un own on one	31 ie igh y uy	32. ale eal eel ole
33. ake eck eak eek	34. oe oo ow ough	35. am ame aim oam	36. ome oam ame ime

Homonym Spelling Test

Directions:

Some words that sound alike are spelled differently. Let's see how you would write these words. I'll say a sentence, then say one word in the sentence, and you write the word I say. Probably no one can do all of them. Do the best you can.

1. The boat had a white sail. sail .
2. I have a new pair of shoes. pair.
3. He filled the pail with sand. pail.
4. The bridge was made of steel. steel .
5. You must pay your fare when you ride the bus. fare.
6. The baby deer ran fast. deer .
7. It was a plain cooky, no frosting. plain .
8. Mother Hubbard's cupboard was bare. bare.
9. I saw a big red beet in the garden. beet.
10. Meat is good to eat. meat.
11. The house is for sale. sale.
12. A pear is a juicy fruit. pear.
13. There wasn't much color in the sky, it was pale blue. pale.
14. Play the game fair. fair.
15. Hide the nuts so that the squirrel can't steal them. steal.
16. The letter began, Dear Santa. dear.
17. We watched the plane go up in the air. plane.
18. Goldilocks met Father Bear. bear.
19. Beat the drum. beat.
20. I'll meet you at school. meet.

Self-directed Lessons

There are three steps in each lesson, children working in pairs:

1. Practice words introduced in teacher-directed lesson.
2. Write missing letters in pictured words.
3. Read words and name letters in each word.

To the Teacher:

These Lessons are to be done by the children working in pairs following your teaching lessons. You can give the directions to the entire class. Move around the room checking the children, helping as help is needed, and emphasizing that the children are working together. In the early lessons, one child writes and the other watches: then the second child writes and the first child watches. Pointing to the letters and naming them, following the writing, they do together. Any time that is left in the first three lessons, the children may practice copying their names from their name cards. They may copy each other's names as well as their own. There are sentences involving some of the words beginning with Lesson Four. These may be done by the fast workers. This additional writing can be done on the back of the day's paper.

First day.

Here are the words that were on the board. We will write them on our papers. You will work together. The first LOOK has lines that you can write over. Begin at the cross. One write and one watch, then the other write while the first one watches. You will write look right under each look on your paper. Let's count together and see how many times we will write look. (Point as you count with the children) one, two, three, four, five. We will each write look five times on our papers. If you have time, you can copy your name. You may start now. I will be here to help you if you need help.

Second day.

Let's see how well we can all write the word SLOW. Let's count and see how many times we will write slow. (Point as you count): one, two, three, four, five, six. We are going to write the first letters of some other words. Look at the pictures. They are all animals we know. Let's name them: kitty, owl, wolf, lamb, seal. You will write the first letter in each one. After you finish, you can name the pictures together and say all of the letters you have written as you point to them.

Third day.

We will write STEP on our papers. Let's count to see how many times we will write step. (Point and count as before.) Who can tell me this word? (Point to look. If no one knows, tell them.) The pictures are all things you might find in a house. Let's name the pictures (pointing): table, window, key, pan, stairs, lamp. You will write the first letter in each word. After you have finished writing the letters, say the names of the pictures and point to the letters you have written and name them. Do this together.

Fourth day.

We will write EXIT on our papers. Let's count to find out how many times we will write exit. (Point and count as before.) Some of the pictures are things we all have and some are things we might have. Let's point to the pictures and name them: eyes, box, ear, iron, ice cream. The first letter is missing in each word (point). You write the missing letter. When you finish, say the names of the pictures together and name the first letter in each word. See if you can say the names of any other letters in the words.

Fifth day.

Let's see how well we can all write FIRE EXIT today. How many times will we write Fire Exit? Let's count. (Point as before.) What word will we write on this line? (pointing) Yes, fire. Let's count how many times we will write fire. (Point as before.) Our pictures today are all of things you might see on a farm. Let's name them together: fence, leaves, rake, feather, rat, wheel. You will write the first letter in each word. When you have finished writing the letters, name the words together and say the names of all the letters you know.

Sixth day.

We will write BOYS and GIRLS on our papers. Let's count all the words that say BOYS. (Point as before.) Now let's count the words that say GIRLS (pointing). The pictures are things that boys and girls like. You can write all of the letters in these words. Let's name the pictures together: yo yo, kite, bike, gifts, book, toys. You will write the names of the pictures today. When you finish writing, name the pictures together and point to each letter and say its name. If you finish, perhaps you can write the names of two girls and to boys in our class.

Seventh day.

We will write DANGER on our papers. Let's count how many times we will write danger. (Point as before.) The pictures are all things that might be dangerous. Let's name the pictures: knife, lion, alligator, nail, pin, needle. You can write all of these words. When you finish writing, say the names of the pictures together and say the name of each letter as you point to it.

Eighth day.

Today we are going to write SCHOOL ZONE. Let's count to find out how many we will write. (Point as before.) We will have to watch carefully today so that we use capital letters in the correct places and small letters in the correct places. Notice the second line. Each word begins with a capital and all of the other letters are small letters. The pictures are all things we have in school. Let's name the pictures (pointing): crayons, scissors, cabinet, desk, chalk, puzzle. You can write all of these words. When you have finished, say the names of the pictures together and say the names of all of the letters as you point to them.

Ninth day.

We will write QUIET on our papers. Let's count to see how many times we will write QUIET. (Point as before.) The pictures are all things that move very quietly. Let's name the pictures: puppet, parachute, butterfly, bubble, spider, balloons. You can write all of these words. When you finish, read the names of the pictures together and say the names of all of the letters as you point to them.

Tenth day

We will write the three new words--JOBS, MILK, VISITORS. Notice we are going to write each of the words three times. Count them with me. (Point as before.) The pictures are all things we have and do in school. Let's name the pictures together: jungle gym, jack-in-the-box, march, have movies. You can write all of the letters now. After you have finished writing the names of the pictures, say them together and then say the names of all of the letters.

These sentences may be copied and read by children who finish the rest of the day's lesson. The words are from the lesson so that they will be able to read them. Like, see, and, an, is and the are introduced to make sentences. The teacher may tell the children these words.

Lesson 4

I like ice cream.
I see with my eyes.

Lesson 5

I see kitty.
I see a feather.
I see a rat.

Lesson 6

Boys like kites.
Girls and boys like bikes.

Lesson 7

I see an alligator.
A knife is sharp.
A needle is sharp.

Lesson 8

Crayons and scissors are in the cabinet.
Puzzles are in the cabinet.

Lesson 9

See the bubbles.
A spider is quiet.

Lesson 10

Joe and Jane like milk.
I like visitors.

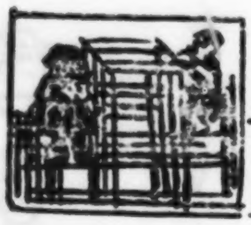
Tenth Day

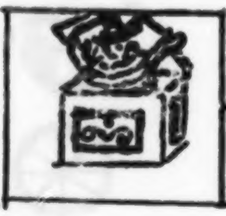
JOBS MILK VISITORS

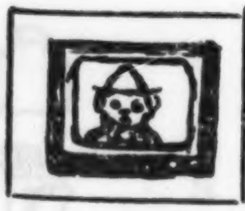
j M V

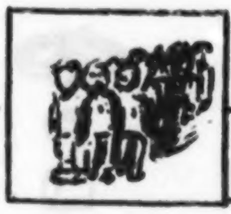
jobs milk visitors

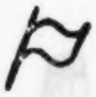
j m v

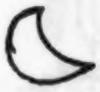

jungle gym

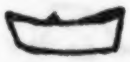

jack-in-the-bo

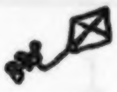

have movies


march


flag

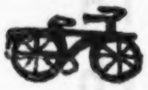

moon

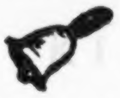

boat

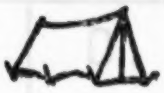

kite

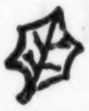
(2)

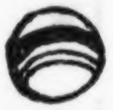
star

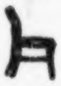

bike

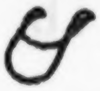

bell


tent


leaf

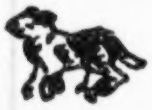

ball

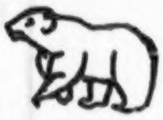

chair

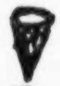

bib

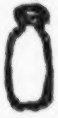
COPYRIGHT HB&W 1965

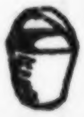
(4)

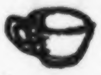

lamb

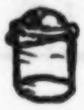

bear

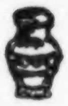

cone


milk

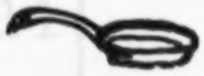

pail

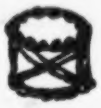

cup

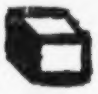

jar

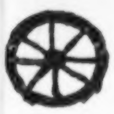

vase

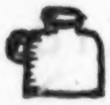
(6)

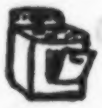

pan

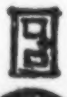

drum

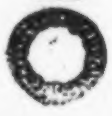

box


wheel


jug

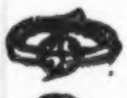

stove

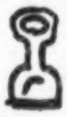

door

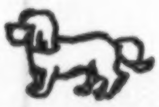

dish

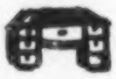
COPYRIGHT HB&W 1965

(8)

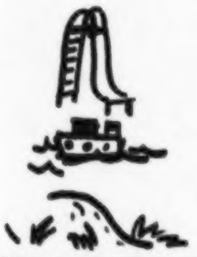

watch


shovel


dog


desk

Lesson 30



	1.	2.	3.
slide	hide	ride	wide
ship	hip	dip	rip
hill	will	kill	bill

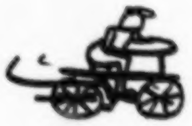
1.	2.	3.
hide	bill	dip
hip	wide	kill
will	rip	ride
ride	hip	will
dip	will	hide
kill	hide	hip
wide	dip	bill
rip	kill	wide
bill	ride	rip

I will ride and hide in a wide ship.

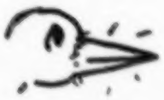
Bill will kill a fly.

A dip may rip a hip.

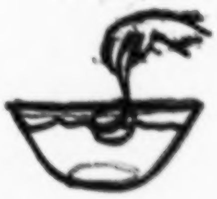
D.



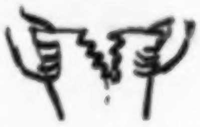
rip______1
ride______2
hide______3



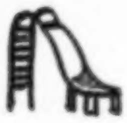
wide______1
hill______2
bill______3



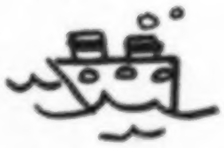
dip______1
rip______2
ride______3



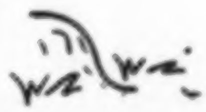
hide______1
rip______2
will______3



hide______1
ship______2
slide______3



hill______1
ship______2
hip______3



hill______1
kill______2
hide______3